Calhoun
Institutional Archive of the Naval Postgraduate School

Calhoun: The NPS Institutional Archive
DSpace Repository

Theses and Dissertations 1. Thesis and Dissertation Collection, all items

1995

An analysis of pollution prevention efforts for ships homeported at Norfolk Naval Base, Norfolk, Virginia.

Manning, Cynthia J.

Monterey, California. Naval Postgraduate School

http://hdl.handle.net/10945/25676

Downloaded from NPS Archive: Calhoun

DUDLEY
KNOX
LIBRARY

http://www.nps.edu/library

Calhoun is the Naval Postgraduate School's public access digital repository for research materials and institutional publications created by the NPS community. Calhoun is named for Professor of Mathematics Guy K. Calhoun, NPS's first appointed -- and published -- scholarly author.

Dudley Knox Library / Naval Postgraduate School
411 Dyer Road / 1 University Circle
Monterey, California USA 93943

DUDLEY KNOX LIBRARY
NAVAL POSTGRADUATE SCHOOL
MONTEREY CA 93943-5101

MASTERS PROJECT

AN ANALYSIS OF POLLUTION PREVENTION EFFORTS FOR SHIPS HOMEPORTED AT NORFOLK NAVAL BASE, NORFOLK VIRGINIA

by

of the Requirements for the Degree of
Master in Engineering

Old Dominion University
Norfolk, Va.

for CE698

Dr. Mujde Erten-Unal

18 July 1995

Thesis
M2955
c.1

DUDLEY KNOX LIBRARY
NAVAL POSTGRADUATE SCHOOL
MONTEREY CA 93943-5101

CONTENTS

1. Introduction... 1

2. Case study.. 11

3. Regulations... 32

4. Organization & Training.. 35

5. Technologies... 37

6. Conclusions.. 48

LIST OF TABLES & FIGURES

1. Chart 1- Underway periods....................following pg 3
2. Chart 2- Year 2000 P2 strategy....................following pg 5
3. Table "Appendix II"- CHRIMP list....................following pg 6
4. Table 1- GENSPECS.................... 9
5. Table 2- P2 Assessment....................11
6. Table 3- Ship layout....................13
7. Figure 1- Ship pollution areas....................following pg 13
8. Table 4- HM Storage....................15
9. Table 5- Cleaning locker listing....................following pg 15
10. Figure 2- HM storage pictures....................following pg 16
11. Figure 3- Paint storagepictures....................following pg 16
12. Table 6- Material balance....................following pg 18
13. Chart 3- Solid waste generation (weight)....................following pg 27
14. Chart 4- Solid waste generation (volume)....................following pg 27
15. Figure 4- Plastics storage pictures....................following pg 28
16. Table 7- Appendix B3-C....................following pg 34
17. Table 8- Discharge restrictions....................following pg 34
18. Figure 5- Ship integrated P2 concept....................following pg 47

INTRODUCTION

The environmental arena has grown dramatically over the last two decades; implementing thousands of new regulations in the attempt to improve the environmental condition of the earth. These regulations dealt with water, air, and ground contamination and were pointed at the industrial and commercial communities to clean up past pollution. Until the last decade, federal facilities were considered off limits to regulators due partially to the mission of upholding National Security, and therefore the management of waste was not monitored as close. With the passing of the 1984 RCRA Amendments, the "shore" portion of all federal facilities have come into compliance with federal, state, and local regulatory requirements. Because of the uniqueness of forces afloat, though, regulators did not know how to approach waste management on board ships and therefore they were exempt from several regulations.

In recent years though, the forces afloat's time has come as well. The Navy understands its responsibility to protect the environment, but the constantly changing regulations has posed a threat to the forces afloat's maneuverability; the Navy must be able to operate its ships anywhere in the world without environmental constraints. It is this need to sustain mission capabilities with the new regulations taking hold that has forced the Navy to take a more aggressive approach to managing their wastes from ships and complying with environmental regulations. In 1985, the Chief of Naval Operations (CNO) mandated a 50% reduction in hazardous waste (HW) production by the year 1992 in response to the 1984 RCRA Amendments, and the shore establishments began to realize that a large amount of their HW generated came from the forces afloat. For the shore facilities to reach 50% reduction, some action had to be taken with respect

to ships' waste management. Some ships did implement pollution prevention (P2) programs on their own, because it saved money, and it was the right thing to do. Ships such as the USS Theodore Roosevelt (CVN 71) and USS Kitty Hawk (CV-63) were pioneers in P2 for ships. Additional concern for ships came with the P2 Policies and Procedures of August 1993; mandating federal facility compliance with the Pollution Prevention Act of 1990. This was cited in Executive Order (EO) 12856, and established a new environmental management hierarchy as national policy, and it is incorporated in EO 12856, as follows:

* Pollution should be prevented or reduced at the source whenever possible;
* Pollution that cannot be prevented should be recycled in an environmentally safe manner whenever feasible;
* Pollution that cannot be prevented or recycled should be treated in an environmentally safe manner whenever feasible; and,
* Disposal or other release into the environment should be employed only as a last resort and should be conducted in an environmentally safe manner.

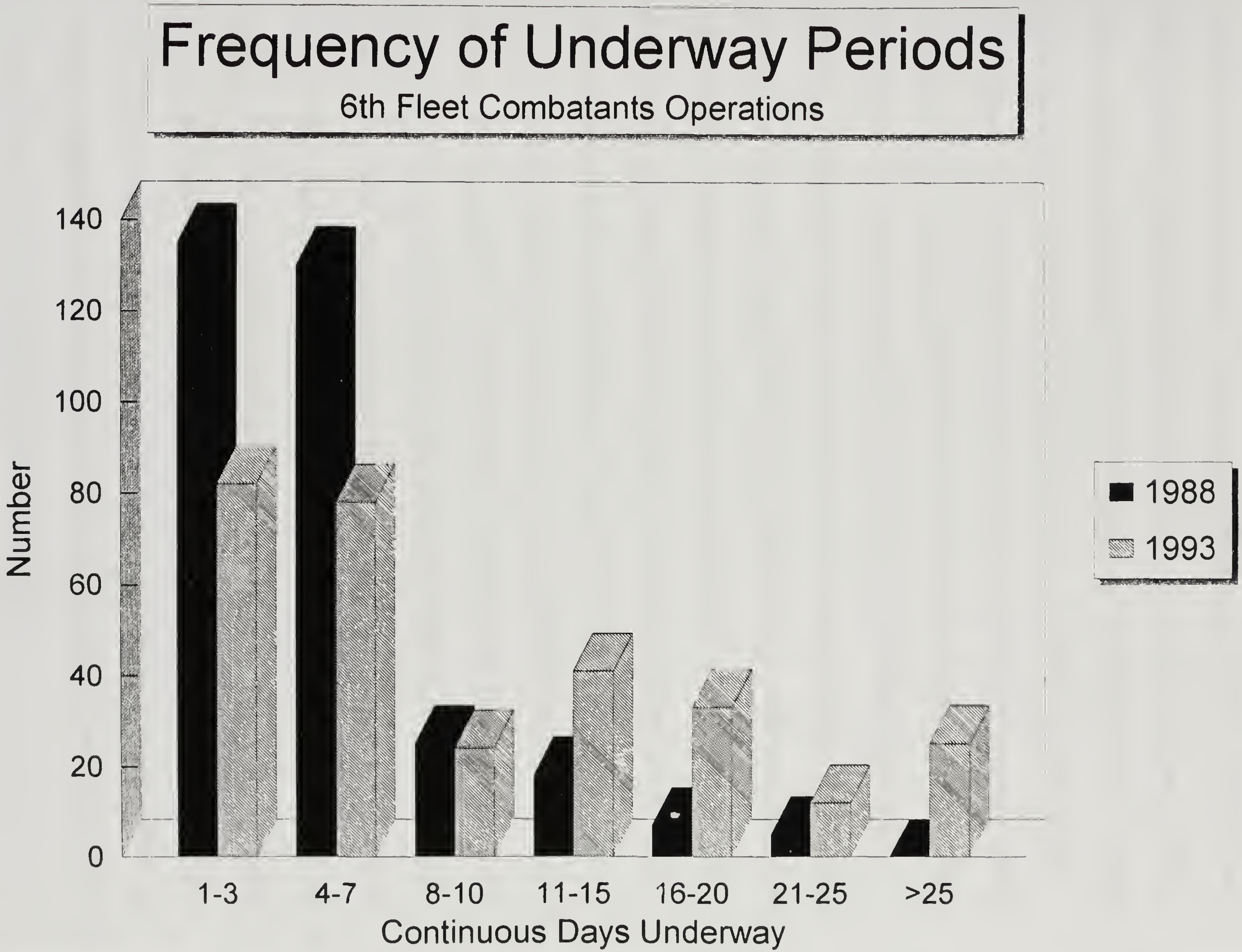
One requirement that stands out is the 50% reduction of the quantity of toxic chemicals being released by 31 December 1999.

Ship waste management covers more than just HM, though, and unfortunately almost all waste streams are going to be affected by present and upcoming regulations. The Act to Prevent Pollution from Ships (APPS) implements Annex I of MARPOL which prohibits oil and oily waste discharge in "special areas" (see Regulations section for further information). Annex I special areas include the Mediterranean Sea, Baltic Sea, Black Sea, and Antarctic Area. Ships must hold their waste in these areas unless it impairs operational effectiveness. APPS also

implements MARPOL Annex V which established a plastics discharge prohibition of 01 Jan 1999, and for special area limitations by 01 Jan 2001. This also carries a prohibition of non-food solid waste discharge in special areas (in effect) by the year 2000. Currently, Annex V areas "in effect" includes the Baltic Sea, North Sea, and the Antarctic Region (south of 60 degrees south latitude). The number and broad coverage of these environmental regulations as well as several others issued have shown the Navy that they can not just respond to individual environmental problems as they arise, but must devise a complete comprehensive P2 program for the forces afloat to ensure compliance with all applicable regulations. For now and beyond the year 2000.

In developing a P2 program for forces afloat, it is a must to have an overall understanding of what the program encompasses and what baseline is the program starting from. As of 19 Jun 1995, the Navy has 374 ships. These ships range from large ships of up to approximately 100, 000 tons and carrying up to over 5,000 personnel such as Carriers to smaller ships under 4,000 tons and carrying only 200 personnel such as Frigates. Of these ships, 176 (47%) are underway, 101 (27%) are deployed, and 50 (13%) are in special areas. Not only is almost 50% of the ships underway, but the underway periods are increasing and will continue to increase especially for deployments. This is important to acknowledge, because a program managing ship waste while underway will be much more difficult than while in port. Chart 1 shows the dramatic increase in underway times from 1988 to 1993. The number of underway periods double for ships that are underway for eleven (11) days or more at one time. While underway, ships generate an enormous amount of waste. A carrier can generate over 15,000 pounds of solid waste in just one day, and if none is discharged will fill up a combat logistics

CHART 1


Frequency of Underway Periods
6th Fleet Combatants Operations
Number
140
120
100
80
60
40
20
0
1-3
4-7
8-10
11-15
16-20
21-25
>25
Continuous Days Underway
1988
1993

force (CLF) ship in less than a week. These waste streams generated by ships include hazardous materials (HM), oily wastewater, graywater, blackwater, medical waste, air pollutants, CFC's, Halons, antifoulants, and solid waste. Solid waste includes food waste, metal, glass, cardboard, plastics, and paper. The current and near future MARPOL regulations mentioned previously require ships to hold more and more waste while underway, until they can be properly disposed of at a shore facility. The present ship structure was not designed to hold any waste for any period of time. The storing of waste may cause safety and health problems for the ship's personnel, causing the ships to be very dependent on shore facilities. In addition, it affects their missions, is quite expensive, and time consuming to dispose of waste at shore facilities. Seeing that the pollution problem involves 374 ships that generate 100,000s of pounds of just solid waste each day and basically starting from ground zero, and these additional reasons illustrates the need more than ever for a comprehensive P2 program for forces afloat.

The Norfolk Naval Station located in Norfolk Virginia feels the weight of this challenge to prevent pollution as much as any federal facility. As a result of the Base Realignment and Closure (BRAC) proceedings, Norfolk has become the Naval Base for the East Coast and is expected to homeport 40% of the Fleet by 1996. There are currently 72 ships homeported at Norfolk. This includes 6 carriers, 11 amphibious ships, 10 tenders, 11 cruisers, 18 destroyers, 12 frigates, and 11 other support ships. During 1994, these ships generated over 2,019,000 pounds of hazardous material that cost the Base almost $6 million dollars to dispose of. They also generated 180,499 cubic yards of solid waste. With more ships being homeported at Norfolk and the regulations requiring ships to hold more waste until returning to port, these numbers will rise significantly if pollution prevention measures are not taken.

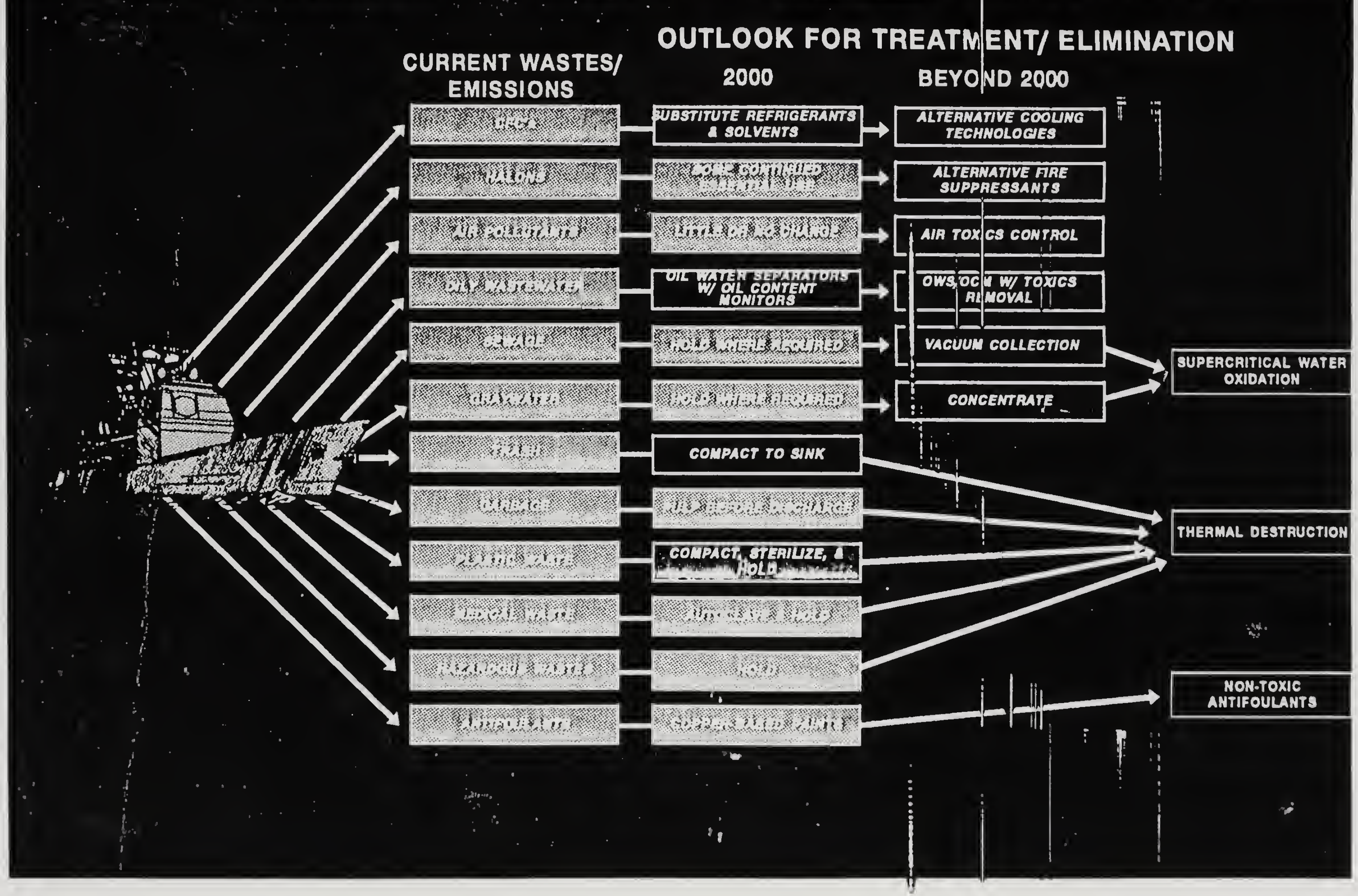
The Navy has set several short, intermediate, and long term goals for itself to reach compliance with current and upcoming regulations, and to make waste management easier and less costly for itself. The Navy will reach these goals through programs that include hazardous material minimization through better management; installation of Plastic Waste Processors on all ships by Dec 1998; zero discharge of non-food solid waste from surface ships in special areas by 2000; retrofitting present ships with solid waste pulpers to slurry paper, cardboard, and food waste; to concentrate blackwater, graywater, and oily waste using membrane technology now under development; to transfer solid waste slurry and concentrated wastewaters from surface combatants to combat logistics force (CLF) and other large ships for processing by plasma arc pyrolysis or other thermal destruction; and to design future ship platforms that have "greener" systems that meet regulations of today and have allowed room for complying with future regulations. Chart 2 outlines the Navy's strategy for these pollution abatement goals beyond the year 2000.

It can be seen from the above programs that pollution prevention is very dynamic. The Navy is attacking this issue on several levels of management with different Resource Sponsors who will be responsible for funding the bulk of the implementations. As a result, there are so many programs that have started up that it makes it very difficult for the Program Managers to get the much needed support both conceptually as well as financially. Comptroller personnel tend to look at how the Navy stands with respect to being in compliance with regulations at the present time. Mission capabilities as a driving force has not won out in recent years as a good reason for supporting particular environmental efforts. Therefore, programs dealing with that particular compliance issue has priority over a program that might help mission capability.

CHAPT 2

SHIPBOARD POLLUTION ABATEMENT

YEAR 2000 AND BEYOND



OUTLOOK FOR TREATMENT/ ELIMINATION

CURRENT WASTES/ EMISSIONS	2000	BEYOND 2000	
CFCs	SUBSTITUTE REFRIGERANTS & SOLVENTS	ALTERNATIVE COOLING TECHNOLOGIES	
HALONS	SOME CONTINUED ESSENTIAL USE	ALTERNATIVE FIRE SUPPRESSANTS	
AIR POLLUTANTS	LITTLE OR NO CHANGE	AIR TOXICS CONTROL	
OILY WASTEWATER	OIL WATER SEPARATORS W/ OIL CONTENT MONITORS	OWS/OCM W/ TOXICS REMOVAL	
SEWAGE	HOLD WHERE REQUIRED	VACUUM COLLECTION	SUPERCRITICAL WATER OXIDATION
GRAYWATER	HOLD WHERE REQUIRED	CONCENTRATE	SUPERCRITICAL WATER OXIDATION
TRASH	COMPACT TO SINK		THERMAL DESTRUCTION
GARBAGE	PULP BEFORE DISCHARGE		THERMAL DESTRUCTION
PLASTIC WASTE	COMPACT, STERILIZE, & HOLD		THERMAL DESTRUCTION
MEDICAL WASTE	AUTOCLAVE & HOLD		THERMAL DESTRUCTION
HAZARDOUS WASTES	HOLD		THERMAL DESTRUCTION
ANTIFOULANTS	COPPER BASED PAINTS		NON-TOXIC ANTIFOULANTS

Adding to the intricacy of all these programs are the Resource Sponsors who have their own agenda, which is partially political in nature, and the communication between Type Commanders has not coincided completely on P2 efforts. The programs appear to be running parallel with each other with no single authority advising their direction. Pollution prevention needs to be institutionalized, and not be attempted in a piece mill fashion if it is really going to take hold as an everyday way of life for the forces afloat.

Programs touched on above involve the Norfolk Naval Base's implementation of the Consolidated Hazardous Material Reutilization and Inventory Management Program (CHRIMP) under the guidance of the Navy Supply Systems Command. The CHRIMP program is one approach to solving the proliferation of HM by a life-cycle control and centralized management concept. The CHRIMP Manual has been distributed, and is a ready reference for personnel responsible for implementation and operation of afloat programs. CHRIMP methodology is based on success projects from those pioneer ships mentioned previously, and basically consists of the consolidation of HM so that one "organization" has total procurement, total inventory, and total issue control of all HM on board a ship. This optimum oversight of HM has resulted in reduced amounts of HM procured, used, stored aboard, and thus the amount of spent HM generated for disposal. The following page is an excerpt from Appendix II of the CHRIMP Manual which summarizes the steps to be taken to implement the program. Note the third step of this program is for the ships to acquire HICS capability. HICS stands for Hazardous Inventory Control System, and is the software basis from which CHRIMP will be run. Currently, the target date for HICS implementation on board ships is 01 Oct 1995. The complete CHRIMP implementation date is unknown at this time.

APPENDIX II

CHRIMP AFLOAT CHECK-OFF LIST

ITEM	ACTION	REFERENCE PARAGRAPH
1	Pre-implementation planning session should include Commanding Officer/Executive Officer (CO/XO), HM coordinator, Department Heads, Division Heads, and work center supervisors.	2.3.4.2
2	Select spaces for HAZMINCEN.	2.4.2.2
3	Acquire HICS capability.	
4	Inventory HM on board and conduct ship survey to ensure all HM is reported on inventory.	2.4.2.4
5	Develop plan for phased collection of HM and phased implementation of CHRIMP processes.	2.4.2.4
6	Promulgate internal procedures for HAZMINCEN operation to include issue, turn-in and inventory control.	2.2.2.4
7	Determine manning requirements and sources.	2.4.2.3
8	Establish anticipated usage rates, inventory levels and reorder points.	2.4.2.6
9	Conduct CHRIMP training and HICS training	2.4.2.3
10	Determine operating hours and emergency response capability.	2.4.2.3
11	Establish budget for HAZMINCEN.	2.4.2.5
12	Coordinate turn in procedures with the local FISC	2.4.2.7

Better management of HM is just the beginning of P2 efforts, and only covers one aspect toward a "greener" ship. A broader program sponsored under CNO N45 which CHRIMP is incorporated in is the Navy P2 Afloat Program. The P2 Afloat Program was organized just this Spring, but it was already at work with several studies to analyze ship processes prior to being established. It is run out of the Naval Surface Warfare Center Carderock Division (NSWCCD) in Annapolis, Md, and has personnel with various expertise contributing to the program. The R&D program for P2 equipment is also out of NSWCCD, and is collaborating on their efforts. The P2 Afloat Program is about analyzing ships processes and developing alternative processes that are "greener"; trying to solve the pollution problem at the source. Specifically, the P2 Afloat Program is presently analyzing areas involving solvents like PD-680, painting, adhesives, sealants, cleaning compounds, and ODS, etc..as well as the possible applicabilities of waste processing devices such as an aqueous parts washer and ethylene glycol recycler. They are taking that information to develop a comprehensive P2 package for a particular ship type that will contain the majority of solutions to pollution problems of today and near future. The ultimate goal of this program is to produce a solutions package for each ship type that can be sent out to be implemented on all ships. They realize the challenge they are up against, but know that doing good things on just one or two ships is not enough. The Program has already started work on their prototype ships, the USS Carl Vinson (CVN-70) and the USS Wasp (LHD 1). They are starting with the larger ships, because they generate ten times the waste of the smaller ships. The Program does have seed money available to make the proposed solutions real for these ships, and the opportunity exists to change the entire Navy afloat, but it will be the regulations that determine where the scarce resources end up. To illustrate this further, several

technologies have existed for years, and if installed would prove to be beneficial in reducing wastes. As part of an R&D program, a suite of four new solid waste processing systems were installed on the USS George Washington (CVN-73) for their 1994 six month deployment by NSWCCD. The systems included a small and large pulper, a solid waste shredder, and a plastics processor, and all proved to be very successful. The reason for the delay of further installation, especially on smaller ships, is the massive cost which must go through the budget cycle for approval, and space constraints. A single installation (including manufacturing) can be well above $500,000, and therefore becomes extremely limited when trying to implement on all ships.

Now after looking at present efforts, try to expand your view 5 to 30 years down the road, and picture an environmentally sound ship. What do you see? This is the challenge that the Ship Design Standards Process Action Team (PAT) is up against. This PAT (NAVSEA 03V) was chartered in August 1993 to evaluate current ship design standards, and incorporate environmental standards into the ship design process to facilitate the development and production of environmentally sound ships. The PAT is trying to accomplish this by revising the General Specifications (GENSPECS) for ships of the U. S. Navy to include requirements to use specific equipment and processes. GENSPEC sections to be revised is based on vulnerability studies that have been conducted with respect to notices of violations, and the results infer that in-port operations and liquid discharges are of the most concern. Table 1 identifies some major GENSPECS of a ship that must be analyzed.

TABLE 1

Machinery Sys. Engr	Hull Sys. Engr	Combat Sys. Engr	Specs Sys. Engr	Human sys. Integration Engr
Propulsion	Weights	Topside/EME		System safety
Electrical	Arrangements	CS Integration		Manning
Auxiliaries	Habitability	Sensors		Human engr
Deck systems	Hull form	Weapons		
Arrangements	Hydrodynamics	IC/Navigation		
Controls	Structures	Excomm		
Fluid systems	Stability	Training		
Damage control	Materials	Testing		
Fire fighting				

These systems are very complex and are integrated throughout the ship. The PAT must take these systems and develop an environmental profile of any ship, and take into account the life cycle environmental consequences of that ship from design and construction, operation and maintenance, and to its ultimate disposition. Three GENSPEC sections have already incorporated environmental issues, and are propulsion internal combustion engines, freshwater service systems, and environmental pollution control systems. The next ship is LPD-17 and its design is almost complete, and does include the requirements of future regulations. One future advantage of this program is that environmental information will be integrated into the GENSPECs at each revision cycle. This approach will aide in the most challenging area of including allowances in the design that will accommodate future changes in regulations in a ship's life, and at the same time preserve mission capabilities and optimize resources.

As can be seen from this discussion, there are too many programs, projects, task forces, R&D, committees, etc..to even begin to name them all. There is even a Solid Waste Executive Steering Committee that was established in April 1994 to prepare for the Report to Congress due in Nov 1996 on how the Navy intends to meet the no discharge prohibitions deadline of the year 2000. They all have a common goal of reducing waste generation on board ships, but they are also battling for precious resources to stay afloat. Several programs will not be successful, and it is the solutions that are inexpensive and easy to implement that will have the advantage. Time itself and the dynamic regulatory arena will also test these programs. Communication will be essential to transform these various programs into a comprehensive P2 plan for the forces afloat, and to be successful.

CASE STUDY

To gauge how these various pollution prevention programs are progressing from a ship's perspective, simple Pollution Prevention Assessments were conducted on a Frigate, Destroyer, and an Amphibious ship. Additional information was also obtained on a Carrier. The intent of this case study was to analyze current waste management practices on board ships, and look at the P2 efforts and/or opportunities that can be identified. A Pollution Prevention Assessment is defined as a systematic, planned procedure with the objective of identifying ways to reduce or eliminate waste, preferably at the source. The assessment procedure can be divided into four phases; planning and organization, assessment, feasibility analysis, and implementation. These assessments focused on the first two phases, and were simple in nature. Evaluations were conducted as part of the feasibility phase, but all information will be turned in to the Norfolk Naval Base Environmental Office for further evaluation and implementation as warranted. Table 2 outlines the steps taken in conducting the pollution prevention assessments:

TABLE 2

Planning and Organization
Contact key personnel
Determine how the assessment should be performed
Outline the items to be analyzed
Set overall goals
Assessment
Review of established policies and procedures
Collection and review of reports
Interviews with key personnel

Ship visit and inspection
Collection of data on processes of ship
Create material balances of wastestreams
Compare actual practice to theory
Review training and knowledge of procedures
Generate set of options for further consideration
Feasibility
Analyze the differences between actual practice and theory
Prepare report of recommendations for modifications as necessary
Implementation
Review and implementation of warranted options (not included)

In conducting the assessments, knowledge on the specific characteristics of these ships as well as how they differed had to be gained to understand their particular waste stream relationship. The Oliver Hazard Perry class Frigate and the Spruance class Destroyer ships that were visited are defined as combatants. The Frigate is primarily an ASW ship with limited AAW defense to amphibious and replenishment groups and convoys. The Destroyer was designed to provide AAW and ASW defense for other surface forces. The Third ship is an amphibious assault ship of the Tarawa Class (LHA) which provides amphibious lift capabilities. These ships were found to vary greatly in size and capabilities. Their specific characteristics are summarized in Table 3 below:

TABLE 3

Description	**Frigate**	**Destroyer**	**LHA**
Displacement	3,600 tons	8,040 tons	25,120 tons
Length	445 ft	529 ft	833 3/4 ft
Beam	45 ft	55 ft	106 ft
Draft	24.5 ft	29 ft	26 ft
Propulsion	2 gas turbines, 40,000shp; 1 shaft	4 gas turbines, 80,000 shp; 2 shafts	steam turbine; 70,000shp; 2 shafts
Speed	28 knots	32.5 knots	24 knots
Manning	15 O; 192 E	25 O; 315 E	58 O; 882 E + 1900 troops
Aircraft	2 SH-60B Seahawk	2 SH-60B Seahawk	35 Harrier VSTOL + helicopters

In addition, these ships carry various missiles, guns, radars, sonars, fire control, and electronic weapons to conduct their missions. The main spaces for mission requirements include engineering, combat, bridge, navigation, etc..., and spaces for living include rack spaces, state rooms for officers, restrooms and showers, galley and mess decks, wardroom and other break areas, etc...The design of these ships minimized on "extra" spaces, making the task of finding additional space for environmental "equipment" a difficult challenge.

As previously discussed, these ships generate various wastes while conducting their missions. Figure 1 is a schematic of typical pollution control problem areas on a ship. This case study focused on only three main wastestreams that cover eight (8) waste types that are of most concern to the Navy. They include hazardous material, solid waste, and discharges. Hazardous material can be defined as any material that, because of its quantity, concentration, physical or chemical characteristics, may pose hazard to human health or the environment when incorrectly

FIGURE 1

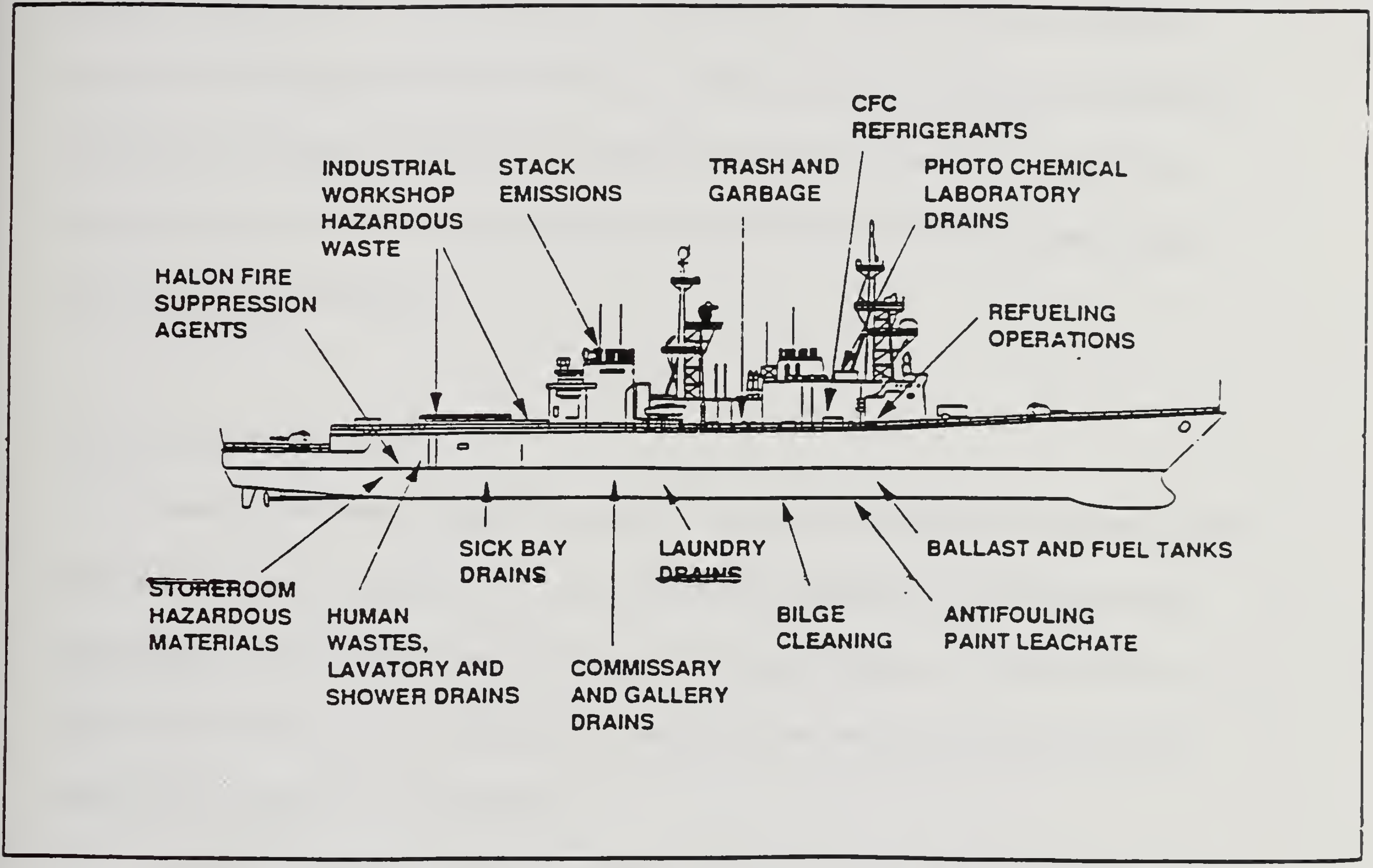

CFC REFRIGERANTS
INDUSTRIAL WORKSHOP HAZARDOUS WASTE
STACK EMISSIONS
TRASH AND GARBAGE
PHOTO CHEMICAL LABORATORY DRAINS
HALON FIRE SUPPRESSION AGENTS
REFUELING OPERATIONS
SICK BAY DRAINS
LAUNDRY DRAINS
BALLAST AND FUEL TANKS
STOREROOM HAZARDOUS MATERIALS
HUMAN WASTES, LAVATORY AND SHOWER DRAINS
BILGE CLEANING
ANTIFOULING PAINT LEACHATE
COMMISSARY AND GALLERY DRAINS

Figure 3. Typical Ship Pollution Control Problem Areas.

used. Hazardous material includes paint, solvents, adhesives, and all types of oil. Solid waste for a ship is its trash and garbage; including plastics, cardboard, glass, food wastes, paper, wood, and metal. The discharges from a ship cover two categories; oily and non-oily wastes. There are three primary sources for oily waste. They include bilge water, ballast, and waste from the waste oil storage tanks. The generation of the oily waste is a result of when fuels, lubricants, greases, oils, and hydraulic fluids mix with water. The non-oily wastes include two main types, blackwater and graywater. Blackwater is made up of human waste and flushing water from water-closets and urinals. Graywater is made up of liquid waste from showers, sinks, laundry, gallery, and scullery activities.

HAZARDOUS MATERIALS

To study these wastestreams, ship visits were conducted to determine the process of each waste from generation to disposal. To start with hazardous material, the process begins with ordering the hazardous material, and involves storing, issuing, using, and disposing of the waste. For simplicity, the process for the Destroyer is outlined below, and distinct differences of the other ships are pointed out when necessary.

The HM Coordinator (HMC) uses a high/low ordering system on the HICS program. But normally when a Department needs a HM, they fill out a request form, have it signed by the Department Head for authorization, and submit it to the HMC for ordering. The HMC utilizes the high/low levels of HMs, and the request forms submitted to determine orders. The HMC will first look up all requested items in the Ship's HM list (SHML) to insure the items are authorized. If so he will first review the Reutilization Office's printout of current inventory to

identify if there are any matches. The HMC will enter any remaining items into the program to create an order for HM. While in an INCONUS (in the U.S.) status it can take up to 5 months to get some items if they are not available from the Reutilization Office or Servmart, but while OUTCONUS (outside U.S.) status it usually only takes 2-3 weeks to obtain needed HM. It is interesting to point out that the Frigate has just received the computer and HICS software on board, and plan to have the system installed and all Department HM inventory entered into HICS by the end of August. Complete tracking and control of HM has not taken hold on board, though. The LHA is ahead of both ships. The LHA has HICS 4.0 version, and utilizes for inventory, issuing, and ordering. The LHA has a centralized HM office with some elements described by CHRIMP.

The next step is the storing of HM. There are several locations for storing HM for its various uses, but at the same time space is quite inadequate relative to the need. Table 4 identifies the storage spaces which are similar for the Frigate and Destroyer:

TABLE 4

STORAGE NAME	CAPACITY
MAIN FLAM LOCKER	45 - 5 GAL CTRS
PAINT LOCKER	640 GAL
PAINT ISSUE LOCKER	150 GAL
CLEANING LOCKER	450 GAL
9 WC LOCKERS	10 GAL EACH

The main flammable locker contains flammable and combustible HM, and the 9 Work Center (WC) lockers contain cleaning supplies that will last the WCs up to one week. Table 5 on the following page lists typical cleaning supplies found in their lockers. One problem with storage

06-16-1995

ITEM	STOCK NUMBER	REQ. AMT.	UI	COST	QTY	NEED	ON ORDER
PINE OIL	6840-00-687-7904	10	CSE	49.20	10 CSE		
SPRAY'N'WIPE	7930-00-926-5280	10	CSE	58.55	5 CSE		
SHOWER MATS	7220-00-634-1601		EA	8.80	7 BX		
CURTAINS	7230-00-205-1762		EA	4.76	2 CSE		
BROOMS	7920-00-291-8305		EA	7.82	4 BX		
SWABS	7920-00-224-8726		EA	4.95	6 BX		
SPONGES	7920-00-240-2559		EA	.76	2 BX		
TOILET CLEANER	7930-00-559-9481	25	CAN	1.30	46 CAN		
SPRAY-N-BUFF	7930-01-363-3573	10	CSE	59.24	28 CSE		
STRIPPER	7920-01-363-1630	10	BX	43.20	24 CSE		
BIRSCH WAX	7930-01-363-6457	10	BX	97.80	19 CSE		
TOILET PAPER	8540-01-055-6094	20	BX	32.55	24 CSE		
SCOURING POWDER	7930-01-294-1115		DZ	7.00	4 CSE		
PLASTIC BAGS, SMALL	8105-01-183-9768	4	BX	13.80	41 BX		
PLASTIC BAGS, LARGE	8105-01-174-0942	7	BX	24.73	27 BX		
STEEL WOOL	5350-00-242-4404		LB	1.98	10 BX		
HAND SOAP	8520-00-270-0065	1	BX	3.01	3 BX		
PAPER BAGS, LARGE	8105-00-543-7169	15	STAC	22.51	28 STAC		
PAPER TOWELS	7920-00-823-9772	5	CS	26.99	7 CSE		
GREENIE WEENIES	7920-00-753-5242	5	PKG	2.11	2 PKGE		
DUSTPANS	7290-00-616-0109	15	EA	1.71	14 SINGLE		
FOXTAILS	7920-00-233-3737	15	CS	2.47	13 SINGLE		
SPRAY-NINE	7930-01-177-0795	5	BX	22.38	16 BX		
BUFFING PADS	7930-01-363-3573	5	CS	43.50	1 CS		

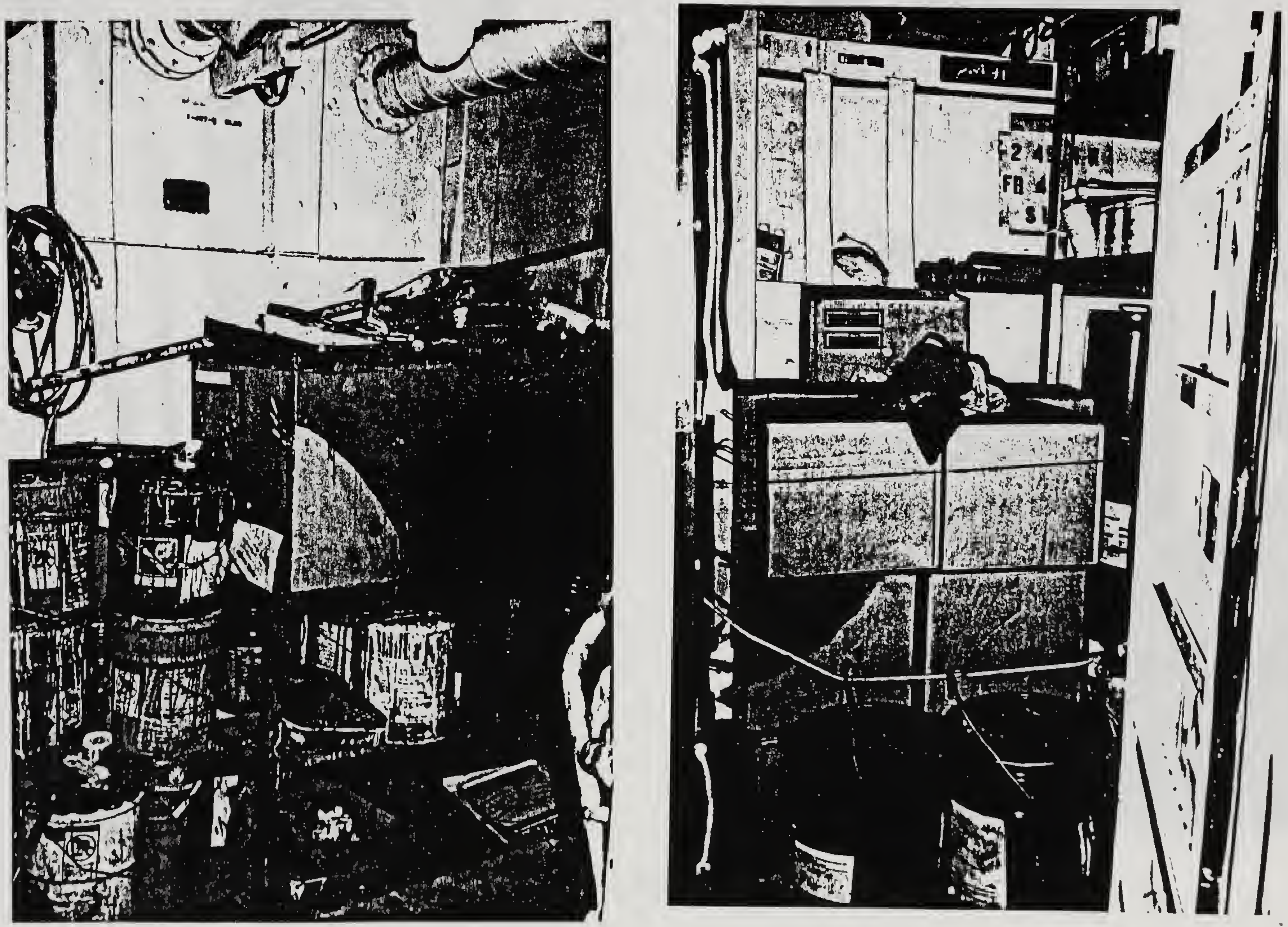
ADHESIVE TAPE					0		
DUCT TAPE	5840-00-103-2254	100	RL	2.47	2CSE	6RL	SERVMART
PAPER TOWELS INDUSTRIAL WIPING	7920-00-823-9772	15	CASE	41.91	27CSE		SERVMART
STEEL SPONGE	7920-00-926-5176	15	EA	.79	24		SERVMART
BLAZE OFF	OPEN PURCHASE	----	GAL		15GAL		
D-SCALER	OPEN PURCHASE	10	GAL		15GAL		
METAL POLISH	7920-00-823-9818	----	CN	5.52	9		
AQUA CRETE	OPEN PURCHASE	20	GAL		0		
MOP BUCKET (26 QT.)	7920-00-926-5244	5	EA	20.38	0		SERVMART
MOP BUCKET/W RINGER (26 QT.)	7920-00-263-8528	NA	EA	41.69	2BX		
RINGER (MOP BUCKET)		10	EA		1CSE		SERVMART
TOILET BRUSH					10BX		
FOXTAIL (SHORT HANDLE)	7920-00-240-6358	15	EA	3.71	21CSE		SERVMART
DATE LAST UPDATED:							

SUBMITTED BY: ______________ REVIEWED BY: ______________ APPROVED BY: ______________

is there is no space designated for spent HM that must be collected, containerized, and stored until it can be off-loaded. The HM that is turned in is stuck in with the storage lockers when possible, and otherwise is placed in spaces designated for other uses. Figures 2 and 3 illustrate the lack of storage space on board Navy ships today. Storage capacity on the LHA is not the critical issue it is on the smaller ships. From Table 3, the LHA is approximately twice as large as a Destroyer, and accommodating their HM storage needs is not a problem. Enclosure 2 of the raw data for the LHA found in Appendix A lists the 32 authorized storage locations for HM. You can already start to realize the challenges the smaller ships face in trying to manage their HM just based on their size and manpower.

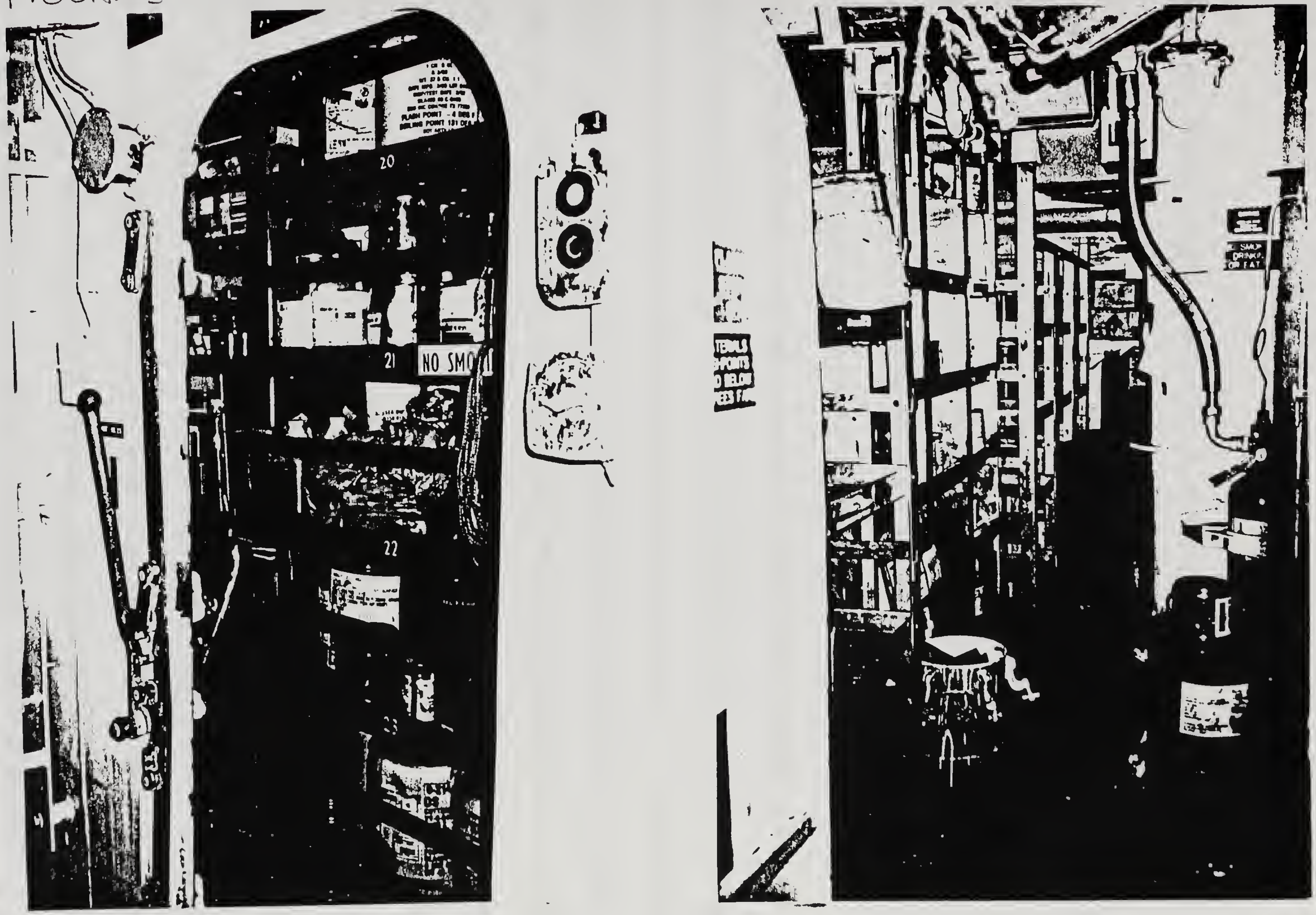
For the issuing of HM, the HMC controls access to the main flammable locker, and has set hours for issue. The boatswain mates have control of the paint lockers, and issue paint as necessary. Before HM can be issued the HMC requires the receiving Department to show evidence that they possess the appropriate MSDS, and if not the HMC will print one from the CD-Rom for them. The HMC has the master file, and the Departments hold MSDSs for the HM they use. Every item that is issued is entered into HICS for tracking. Information entered includes what the HM is, when it was issued, how much, and whom it was issued to. The LHA has a bigger operation, and thus has a central issue room which HM is checked out of. There are additional locations that HM can be issued, but everyone must go through central issue to get a "chit" authorizing them to receive that HM. Personnel requiring HM often bring a PMS (maintenance) card to central issue to ensure they only get the amount of HM necessary to perform the particular maintenance. HM issue personnel often transfer larger containers such as 5 gallons into smaller quart and pint size containers to minimize the amount of HM leaving the

FIGURE 2



HM STORAGE

FIGURE 3



PAINT STORAGE ROOMS

issue room. These procedures make it easy to keep control of the HM, and they also use less.

After lack of space, turn-in and disposal are the next biggest problem areas for the smaller ships. It is this turn-in process that is the concern for the LHA. The HM process starts to breakdown here, possibly due to lack of training, high rate of turnover in individual assignments, or lack of communication. These reasons result from the fact that there is no enforcement from the top down yet when it comes to the environmental atmosphere on board a ship. Even though the ships are aware of the new HM programs, there still is not enough emphasis put on it to make it an everyday way of life. Simply stated, it is hard to change no matter what that change is even if it is for the better of all parties involved. All spent HM should be turned in to the HMC for tracking purposes as well as for actual disposal. Some personnel do not know proper disposal procedures, or are turning the spent HM in themselves for disposal while in port. When this happens, the cradle-to-grave tracking of a specific item stops. On the LHA, personnel sometimes give the HM they received to their "buddy" who might be finishing a maintenance job and then forgets to turn in the used HM. The HMC for the LHA would like to have a HM card issued to all personnel, and when they check out HM the card is turned over and will not be given back until that same person returns the used HM. They can not check additional HM out either until the previous HM has been brought back.

For disposal, the ship personnel properly package and label spent HM for PW. The HMC fills out 1348 Forms for each HM for turn-in to PW. The 1348s are a record of accountability for the ship and a way of billing for PW. PW picks up HM at the head of the pier, signs off on the 1348s and gives a copy back to the HMC. See Appendix A for copies of the 1348s identifying the wastes turned in to PW. FISC Norfolk is with PW to take acceptable material to

their reuse store. HM is free to pick up or drop off to them. PW takes this spent HM and delivers waste oils to Craney Island for recycling, metals to the Metals Yard for recycling, designated hazardous waste is prepared for contractor disposal, etc.. Appendix B contains the HM/HW Minimization, Reutilization, and Disposal Guide put out by COMNAVBASE Norfolk which outlines all the disposal options available for waste generated from ships. Options such as crossdecking, extending shelf life, and recycling are included.

To understand this process for individual HM, a material balance was performed on the HM from ordering to disposal. From this, possible P2 opportunities may exist for material substitution, or process modification. Table 6 on the following page displays the material balance of HMs used on board the Destroyer. The raw data that this table was generated from can be found in Appendix A. This same information was obtained for the LHA, and the data can also be found in Appendix A. Additional tables of their HM were not created, because analysis of the raw data indicates good HM management practices in tracking their HM from cradle-to-grave, and therefore would serve no further purpose.

TABLE 6

HAZARDOUS MATERIAL (HM)	HM IN INVENTORY	USE OF HM	% OF MAT'L THAT SHOULD BE USED	HM TURNED IN TO REUTILIZATN	HM TURNED IN TO PW	DISPOSAL METHOD
lapping cmpd	1 ctr	unknown	100%	none	0	
insulating cmpd, electric	1 can	electrical eqpt	100%	none	0	
propanenone	4 cylinders	light off P250 pumps	100%; empty cyl	none	0	
engine cleaning cmpd	8 gallons	general purpose	spent remaining	none	0 (1)	
contact cleaning cmpd	1 ctr	general purpose	spent remaining	none	0 (1)	
leak detection cmpd	7 bottles	unknown	100%	none	0	
silicone cmpd	1 tube	lubricating grease	100%	none	0	
joint thread sealing cmpd	2 cans	sealer	100%	none	0	
corrosion resistant cmpd	1 ctr	sealer	100%	none	0	
sealing cmpd	1 ctr	sealer	100%	none	0	
adhesive	9 cans	glue	100%	none	1 can; 8 lbs	HW; ctr disposal
scotchgrip adhesive	3 ctrs	glue	100%	none	0	
gear lube oil	2 gal	lubrication	old recovered	none	2 Dr; 126 Lbs (2)	recycle/reuse
moly B grease	1 ctr	lubrication	100%	none	0	
cherry hydraulic fluid	2 gal	lubrication	old recovered	none	9 Dr; 3750 Lbs (2)	recycle/reuse
acetone	3 ctr	clning eletrical eqpt	100%	none	0	
fire resistant adhesive	20 qts	glue	100%	1 gallon	0	
RTV/white	12 tubes	caulking	100%	none	0	
Paint, various (3)	98- 5 gal; 35 -1 gal	painting surfaces	100%	none	3-5 gal; 3-1 gal	HW; Ctr disposal

HAZARDOUS MATERIAL (HM)	HM IN INVENTORY	USE OF HM	% OF MAT'L THAT SHOULD BE USED	HM TURNED IN TO REUTILIZATN	HM TURNED IN TO PW	DISPOSAL METHOD
rubber base adhesive	1 qt	glue	100%	none	0	
denatured alcohol	30 cans	clean electrical eqpt	100%	none	0	
antifreeze	11 gal	antifreeze	old recovered	none	0 (4)	
antisieze, moly B	7 ctr	lubricating grease	100%	none	0	
lube oil, 2 cycle engine	33 qts	lubrication	old recovered	none	1 Dr; 420 Lbs (2)	recycle/reuse
corrosion prevention	9 gal	sealer	100%	none	0	
corrosion prev. spray	120 cans	sealer	100%	none	0	
cutting fluid	5 cans	lubrication	100%	none	0	
glass cleaner (5)	1 ctr	general purpose	100%	none	0	
aircraft grease	2 gal	lubrication	100%	none	0	
general purpose grease	3 qts	lubrication	100%	none	0	
wire rope grease	1 ctr	lubrication	100%	none	0	
hydraulic fluid, petro base	none	lubrication	old recovered	2 gallons	9 Dr; 3750 Lbs (2)	recycel/reuse
cleaning cmpd	5 gal	general purpose	spent remaining	none	0 (1)	
isopropyl alcohol	10 cans	clean electronic eqpt.	100%	none	1 can	HW; ctr disposal
aircraft turboshaft oil	708 qts	lubrication	old recovered	none	1 Dr; 420 lbs (2)	recycle/reuse
hydraulic fluid	2 qts	lubrication	old recovered	none	9 Dr; 3750 lbs (2)	recycle/reuse
hydraulic fluid	6 gal	lubrication	old recovered	none	9 Dr; 3750 Lbs (2)	recycle/reuse
instrument lube oil	10 qts	lubrication	old recovered	none	1 Dr; 420 Lbs (2)	recycle/reuse
steam turbine lube oil	42 gal	lubrication	old secovered	none	1 Dr; 420 Lbs (2)	recycle/reuse
naphtha aromatic	1 gal	unknown	-	none	0	-
sealing cmpd type 3	2 pints	sealant	100%	none	0	

HAZARDOUS MATERIAL (HM)	HM IN INVENTORY	USE OF HM	% OF MAT'L THAT SHOULD BE USED	HM TURNED IN TO REUTILIZATN	HM TURNED IN TO PW	DISPOSAL METHOD
silicone cmpd, DC-7	4 tubes	lubricating grease	100%	none	0	
silicone cmpd, Dc-6	10 tubes	lubricating grease	100%	none	0	
weapon oil arctic	12 qts	lubrication	100%	none	0	
sodium bicarbonate	2 LB	deodorizer	100%	none	0	
talcum powder	1 cup	medical	100%	none	0	
plug valve grease	4 tubes	lubrication	100%	none	0	
plastisol cmpd	7 ctr	sealant for duct	100%	none	0	
aircraft clng cmpd aerosol	48 dozen cn	aircraft parts cleaner	100%	none	0	
aircraft cmpd Clean	2 gal	clean parts	spent remaining	none	0 (1)	
corrosion prev. cmpd Ty2	2 qts	sealer	100%	none	0	
roller bearing grease	5 cans	lubrication	100%	none	0	
gear lube oil	20 qts	lubrication	old recovered	none	1 Dr; 420 lbs (2)	recycle/reuse
scotch kote	3 cans	electrical insulation	100%	none	0	
graphite/colloidal	3 ctrs	unknown	-	none	-	-
cleaner/preserver	19 gal	general purpose	spent remaining	none	0 (1)	
dry clean solvent PD680	2 pts	clean bolts, screw,etc	spent remaining	none	0 (6)	
insulate electric cmpd	none	insulation	100%	2 gallons	0	reuse
catapult hydraulic fluid	3 qts	lubrication	old recovered	none	9 Dr; 3750 lbs (2)	recycle/reuse
ethylene glycol	39 gal	antifreeze	old recovered	none	9 gal (7)	HW; ctr disposal
mineral oil	1 ctr	wood preserver	100%	none	0	
refrig. lube oil	5 gal	lubrication	old recovered	none	1Dr; 420 lbs (2)	recycle/reuse
RCO-2 refrig. lube oil	28 qts	lubrication	old recovered	none	1 Dr; 420 Lbs (2)	recycle/reuse

HAZARDOUS MATERIAL (HM)	HM IN INVENTORY	USE OF HM	% OF MAT'L THAT SHOULD BE USED	HM TURNED IN TO REUTILIZATN	HM TURNED IN TO PW	DISPOSAL METHOD
Rags	several bags	clean up	0%	oone	3 bags; 55 lbs (8)	commingled waste
oil filters	unknown	machinery	0%	none	1 bag; 5 lbs	commingled waste
OBAs	unknown	fire fighting	0%	none	1 Dr; 69 lbs	HW; Ctr disposal
epoxy coating	none	coat various surfaces	100%	2 pints	0	reuse
polyurethane coating	none	coat various surfaces	100%	1 pint	0	reuse
gray epoxy coating	none	coat various surfaces	100%	4 gallons	0	reuse
colorfaice grout cmpd E	none	grouting	100%	4 gallons	0	reuse
Aliphatic polyurethane	none	sealer	100%	3 gallons	0	reuse
paint thinner	unknown	clean eqpt	spent remaining	none	0 (9)	

From examining Table 6 and the general process procedures just discussed, several P2 efforts are in effect on the LHA, and several possible P2 opportunities exist for all three ships. Several process modifications can be made, and P2 equipment could be installed based on previous programs discussed as well as from information in the Technologies section that follows. Basically, the waste management practices on the Frigate and Destroyer are poor at best. The LHA is actually ahead of the time line for CHRIMP implementation. The waste generation through improper disposal can be minimized and improvement of overall management of HM can be obtained by implementing HICS to its fullest capacity and making the ships's personnel aware of the centralized tracking system that exists through the HMC. Department specific HM training that covers their HM should also be given. Table 7 of the Regulations section should be consulted for proper HM disposal procedures. The following comments are on specific HM processes shown in Table 6. The numbers correspond to the numbers in parenthesis in Table 6.

(1). The general purpose cleaning compounds are used to clean various types of tools and equipment. Rags and brushes are used, or the item to be cleaned is placed in a container to be cleaned. As a result of the cleaning process, spent cleaning compound has been generated. For the case study, this spent HM has not been collected for turn-in to PW while in port or underway. Appendix B3-C of OPNAVINST 5100.19c must be consulted to determine proper disposal (see Table 7 of Regulations section). Based on interviews, it is believed the material has been placed in the ship's deck drain system, or has been placed in the waste oil storage tank. The deck drain discharges directly to the water, and the holding tank is intended for petroleum-based HM only.

The LHA has substituted Simple Green for the general purpose detergents. It is biodegradable, and is safe to go down the deck drains. The LHA have been using this non-hazardous substitute for one year, and found out about it through the message traffic.

(2). All old lube oils and hydraulic fluids that are recovered through normal maintenance are placed in drums in the oil lab. While in port, the Engineering Dept is turning full drums directly into PW and receiving new empty drums in return. This disposal method is appropriate, but the Engineering Dept has failed to coordinate with the HMC to ensure cradle-to-grave accountability for all HM. The HMC has no 1348s to account for this waste oil. Currently the Frigate is holding all HM on board until it can be disposed of at a shore facility, but they are not realizing that certain items are HM and are placing them in the improper location. The Frigate has used the oil lab containers for other items such as paint thinners, and most Engineering wastes are going to the oily waste holding tank. This may not be acceptable for underway since this includes solvents and other cleaners. And such things as rags are going to the regular trash. Therefore, contents of containers are not well documented when it comes time for disposal. For the LHA, old pump oil is sent to the settling tank where it is purified and cycled back for reuse. Used synthetic oil, transmission fluid, and old hydraulic fluid is turned in to the HMC for storage and disposal. Lube oil and fuel oil are placed in the oily waste holding tank. This may be of concern while underway, because the LHA does not have an OWS, and may not be able to achieve <15ppm when discharging.

(3). There was no official inventory list for the paint stored in the main paint locker or the paint issue locker. There is no aesthetics painting, but whenever a space is deemed requiring of paint it is painted. One hundred percent of the paint should be used if properly stored

between uses. Paint chips and rags are bagged for turn in. Empty metal containers are placed in the metal bin located on the pier while in port. When underway, the personnel poke holes in the empty metal containers and discharge them directly overboard. All empty metal containers are returned to the HMC on the LHA for storage and disposal whether in port or underway. The HMC holds them while underway, and only discharges them over board if there is no more room. Paint rags are held while underway, but once in port (if dry) are placed in the regular trash bins. Painting procedures need to be modified on the LHA. Painting appears to be a way of life on the ship; spending over $13,000 on paint during just the last trip to Servmart (see Appendix A Servmart shopping list).

(4). Antifreeze is used throughout the ship. Periodic maintenance is conducted every six months on equipment containing antifreeze. Antifreeze recovered from this procedure should be containerized and turned in to PW for proper disposal while in port. Some Ethylene glycol has been turned in, but not enough to balance the material used.

(5). A number of HM has been ordered by the Supply Officer who did not inform the HMC, so the HM can be properly accounted for in the inventory. Glass cleaner is an example of this. Only 1 ctr is known to be in inventory, but a 5 gallon bucket full of 8 oz bottles was found in the paint locker, and another bucket full of cleaner bottles was found stored in the trash room. the HMC said it appears that there is HM floating around the ship that is not documented in the inventory. This is also the case on the other two ships. Tracking of HM fails also when HM is issued by the Supply Dept who also have a key to the flammable locker. The HMC is not informed of whom it was issued to, and if none is returned, that HM is lost from the tracking system. The HMC is the only person at this time trained on how to use HICS. Thus, if he issues

the HM it is logged in, if not then the HM is not logged in and lost from the tracking system. The Frigate's tracking system is not centralized at this time. Each Department contains their own inventory, and lets the Supply Department know what is needed. There is no control to be able to track their HM. All HM is issued through the central issue room on the LHA, and logged into the computer as previously discussed. This is good for tracking who it is issued to, but does not help if people do not return the HM when finished.

(6). Similar situation to number (1). This HM is identified separately, because it is PD-680. This all purpose cleaner is used most by the engineers to clean everything from bolts and nuts to tools. The spent PD-680 is being placed in the waste oil storage tank. This is not the preferred method, but it is a petroleum-based HM, and by placing it in the waste oil tank it is being containerized. PW drains that tank, and sends it to be recycled. This is not appropriate disposal while underway. This ship does not have a OWS. Soundings are taken and water portion is drained and discharged. PD-680 Type II is only used by the gunners mates on the LHA. They have been using Bio-Tech Hi-Solve as a substitute. It is hazardous, but less hazardous than PD-680 type II or Type III and is said to work well.

(7). Only some spent ethylene glycol has been returned for proper disposal.

(8). Rags are used everywhere, and constantly to perform maintenance, and for clean up. The rags are often saturated when bagged which has caused future clean up necessary. Some Departments have stored their own spent rags, and have directly turned them in to PW, but unfortunately they have also been found in the garbage. All rags should be returned to HMC for accountability.

(9). There is no official inventory of paint thinner. No spent paint thinner has been turned in to the HMC for proper disposal either. Paint thinner has been placed in the deck drain, discharged directly overboard, and placed in the waste oil storage tank, in port and while underway. All three methods are against regulations. Placing paint thinner in waste oil tank can cause it to be "hot" and contaminated waste that must be disposed of as a HW by PW instead of sending it out to be recycled.

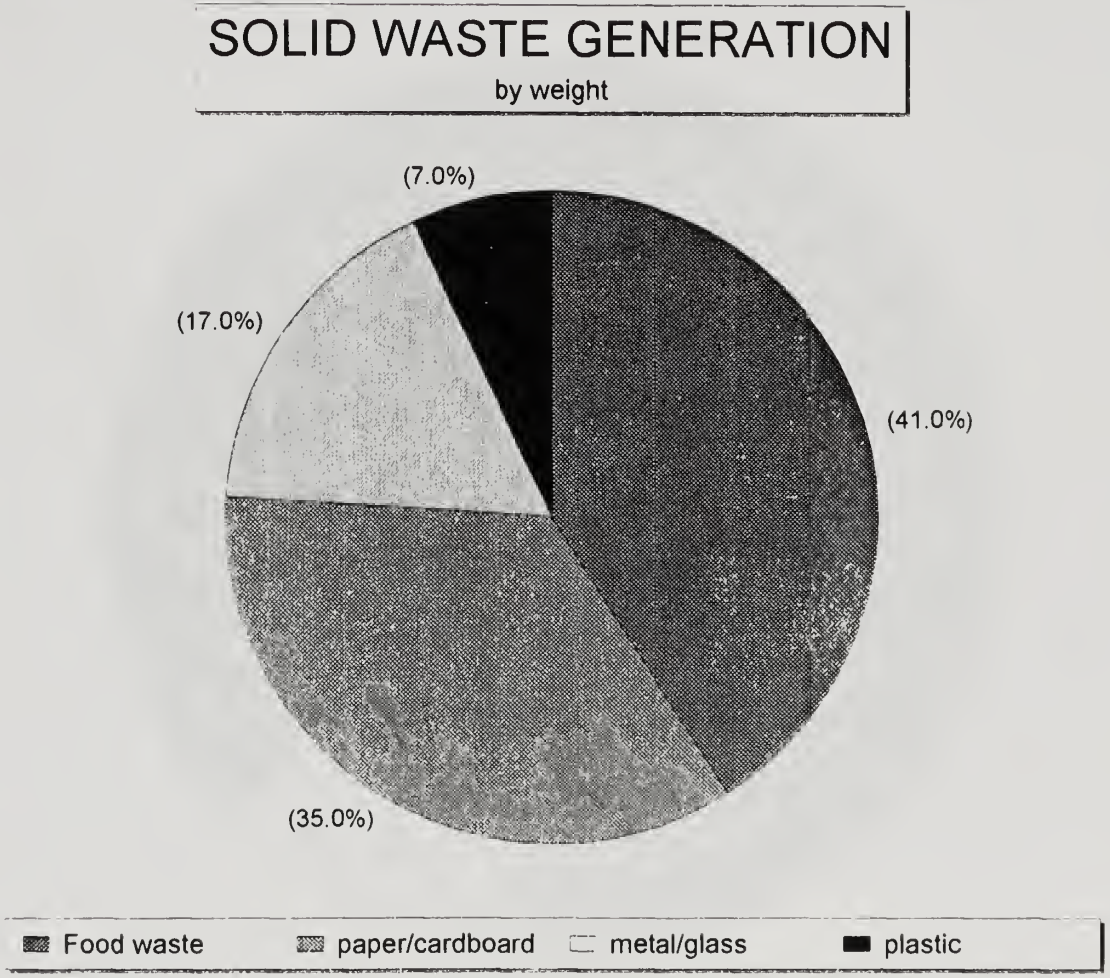
(10). There is no account of batteries.

Some additional P2 comments regarding the LHA include the daily use of OBAs. Every day fire drills are run utilizing the OBAs. The HMC receives 5 to 10 OBAs a day for storage and disposal. 29 OBAs were turned in while conducting the inspection. There does not appear the need to actually use the OBAs during each drill; a simulation drill could sometimes be incorporated. This is mentioned, because the OBAs are very expensive for the Base to dispose of. One additional P2 effort is the LHA is substituting Pine Oil with a degreaser called IMPACT. IMPACT does a great job and can be placed down the deck drain. The only draw back is that it is expensive to purchase. In being a large ship, the LHA does not appear to experience the money problems that the smaller ships have. If the HMC is running short, the Supply Officer taps funds from the Department who is actually using the needed HM.

SOLID WASTE

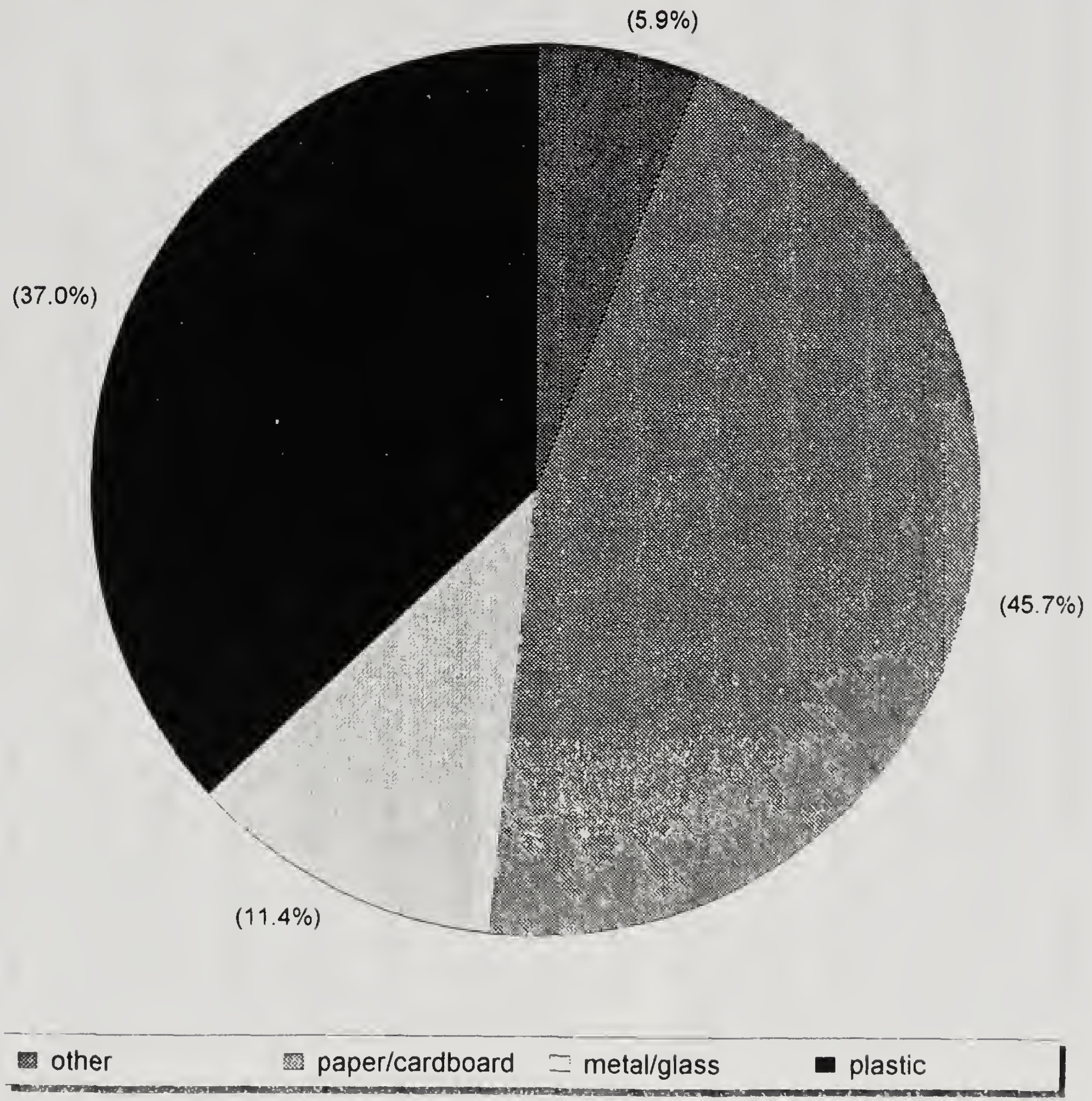
As previously stated, the process of solid waste generation on average generates 3 pounds of solid waste per person per day. Charts 3 and 4 give a breakdown of solid waste generation by weight and volume. The charts read starting at the top, and the area to note is plastics. Though

CHART 3


SOLID WASTE GENERATION
by weight
(7.0%)
(17.0%)
(41.0%)
(35.0%)
▩ Food waste
▨ paper/cardboard
☐ metal/glass
■ plastic

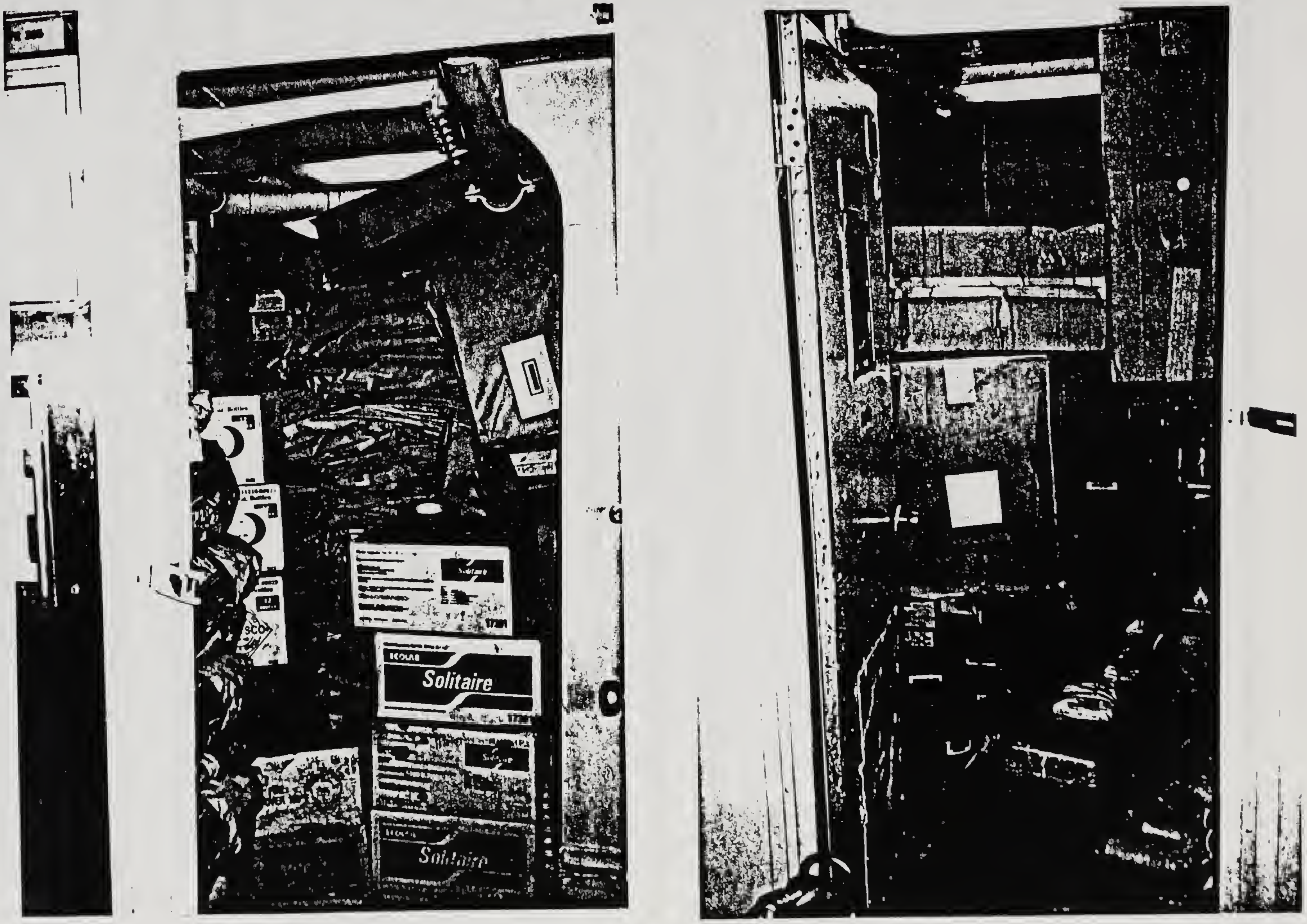
SOLID WASTE GENERATION

by volume

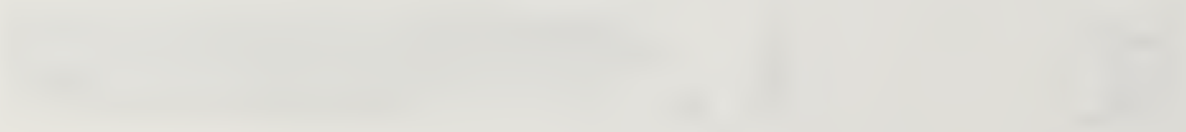


plastics only account for 7% by weight, they make up 37 % by volume. This is important, because the following Regulations section explains that there is zero discharge of plastics in several areas, and zero discharge deadline by the year 2000. Presently, when solid waste is generated throughout the ship, plastics are separated from non-plastics. The non-plastics include glass which there is little to account for, cardboard, food wastes, metal and paper. The plastics are stored in the trash room until they can be disposed of in port. At the beginning of an underway period the trash rooms are full of supplies (see figure 4). Once these supplies expire while underway, there will be room for the plastics. Until then personnel find creative ways of finding places to hold plastics until they can be disposed of in port. Triwalls made of cardboard is the method used to separate plastics from everything else. To address other solid wastes, food waste is placed in a food grinder which reduces the waste to a slurry and then it is discharged overboard. The ship has no other solid waste processing devices, so all cardboard, glass, paper and metal is collected in trash bags and discharged off the ship during appropriate times and in proper areas. The trash bags themselves are not thrown overboard. There is no aluminum can recycling on board due to lack of space. The LHA has taken their solid waste management one step further. In addition to triwalling plastics, they also keep paper and cardboard until in port. the LHA has 3 food grinders that are used while underway, but food items such as rice, egg shells, and noodles can not be placed in the grinder because they will clog up. These items are also triwalled while underway. They do have a trash compactor, but it is too small to bother using. They also have an incinerator, but have not used it since a detachment of Marines were on board. There is not enough manpower to run it otherwise, and even then it is only used for cardboard. There is no aluminum recycling on board. The LHA has pushed it, but need a

FIGURE 4



TRASH ROOMS



compactor to crush the cans. It is interesting to note that the LHA does have some solid waste processing devices, but can not fully utilize them due to size, configuration, and manpower problems. These problems need to be known by R&D in designing new systems to ensure things such as large enough exiting piping or clean outs for the food grinders. Even though the right thing is being done by holding solid waste, the potential for unsafe living conditions exist. The Navy is installing plastics processors on all ships, but will it solve the problems for the smaller ships is unknown.

DISCHARGES

Oily Wastes are generated from performing various types of maintenance on equipment. The spent lube oil, and hydraulic fluids are collected in 30 gallon containers and are turned in to PW for recycling while in port. Other waste oil that is collected in the waste oil storage tank is pumped to a ships waste offload barge (SWOB). This is transferred to Craney Island for recycling. A SWOB has a 1000ppm halogen level that can be accepted by the contractor. Putting non oil-based items in this would increase the halogens causing it to be considered "hot oil". Regarding the bilge water, only the Frigate has an Oil Water Separator. While in port, the bilge water is pumped to an oil draft raft (ODR), and then the oil which is separated in the ODR is transferred to a SWOB. Blackwater is collected in 2 - 500 gallon Collection, Holding, and Transfer (CHTs) systems and is transferred every couple of hours to a SWOB. Graywater is collected in 4 different CHTs and then is continuously discharged directly to a SWOB. Disposal procedures are quite different once underway for oily waste, blackwater, and graywater, and unfortunately differ from port to port. The following Regulations section discusses proper

procedures for disposal. P2 opportunities include training of personnel to ensure no HM is placed in with the discharges, and the installation of P2 equipment.

The P2 efforts on these ships vary greatly. The size, manpower, and capability of the ship plays a factor, but whether or not the ship's Commanding Officer and crew wants to make strides in pollution prevention is the biggest factor. This is exemplified by the actions of the USS George Washington (CVN-73), and their results are definitely worth discussing. In 1994 this carrier was chosen as a test site for a suite of four new solid waste management systems that were developed by the Carderock division under the direction of NAVSEA 03R/03V, and fabricated by the Machinery Technology Division of Westinghouse Corp. These systems included a small and large pulper for paper and food waste, a solid waste shredder, and a plastics processor. The four systems were installed prior to the ship's 1994 six month deployment to undergo technical and operational evaluation. The plastics processor processes at a rate of 30 pounds per hour producing 20 pound, 20 in diameter stable disks. While at sea, a carrier can generate approximately 1,200 pounds of plastic waste per day. During their deployment, the plastics processor produced 5,000 disks weighing a total of 48,600 pounds. The large pulper grinds mixed paper and food waste into a 1 or 2% seawater slurry for overboard discharge at a rate of 680 pounds per hour. While underway the pulper operated successfully an average of 21 hours per day. The small pulper was also successful in its testing. The solid waste shredder processes metal and glass waste into a sinkable form for overboard discharge. During the deployment, 185,000 pounds were processed, and could be discharged during flight operations. In addition to the engineers and technicians, this pilot study was such a success because of the cooperation of the ship. Personnel were open-minded and had the right attitude towards the

whole study. The USS George Washington's (GW) enthusiasm for preventing pollution did not stop here with solid waste. As a result of hard work from an entrepreneurial, SK1 Sheridan, and the support of his Command, GW has created a program that streamlines HM management that is line with the proposed CHRIMP. GW shows that following established guidelines, good training, and getting into a routine is the key to HM almost taking care of itself. GW established guidelines by identifying all HM used on board, and explicitly defined how each should be used, stored, and disposed of; and put this information together in a compact HICS User's Catalog. The Catalog even has a HICS shopping list included to inform personnel what is available. GW has clearly outlined how spent HM is to be turned-in while in port or underway. This table is included as Appendix C of this project. Information on their discharge management was not available.

REGULATIONS

As with any other corporation or industry that produces waste, there are a large number of federal and state regulations that govern what can and can not be done with respect to the environment. The number of these environmental regulations have increased significantly in recent years, and these regulations are in a continuous state of change. The U. S. Navy is a very unique corporation with special requirements, and therefore has its own set of Policies in addition to other regulations. A number of the federal and state regulations have been modified for forces afloat in the past to accommodate this unique atmosphere. For example, under the Federal Facilities Compliance Act of 1992, Navy ships shall not be subject to the storage, manifest, inspection, or recordkeeping requirements of RCRA until such waste is transferred to a shore facility...Basically, ships do not generate HW just spent HM. The Navy operates in a manner that is compatible with environment, and in order to accomplish the mission element, personnel must be aware of the environmental regulations which have been established by the federal, state, and local governments. The Navy afloat has three main publications that outline everyone's responsibilities with respect to shipboard waste generation, and specific procedures that must be adhered to. The publications incorporate the federal and state regulations that apply.

The first publication is OPNAVINST 5090.1C, Environmental and Natural Resources Program Manual. Chapter 19 outlines responsibilities for environmental compliance afloat, and focuses on the discharge regulations for all wastestreams. OPNAVINST 5100.19C, Navy Occupational Safety and Health (NAVOSH) Program Manual for Forces Afloat covers all safety

disciplines from heat stress to underway replenishment. Chapter B3 outlines the Hazardous Material Control and Management Program, and Chapter C23 covers HM storage, Use, and Disposal Precautions. The last publication is S9086-T8-STM-010 Chapter 593, Pollution Control. This technical manual assists ships by summarizing the Navy pollution abatement program, and includes proposed pollution control equipment.

When waste generation afloat and pollution prevention topics are covered in the regulations, the discussion always covers the eight (8) main wastestreams that are of concern and are defined as follows:

HAZARDOUS MATERIAL (HM): Any material that, because of its quantity, concentration, or physical or chemical characteristics, may pose a substantial hazard to human health or the environment when incorrectly used, purposefully released, or accidentally spilled. HM include flammable, combustible, toxic, corrosive, and oxidizing materials, and aerosol containers, and compressed gases.

OILY WASTE: Petroleum-based fluids like fuels, lubricants, greases, lube oils, and hydraulic fluids mixed with water or other fluids that make the mixture no longer useable as intended.

GRAYWATER: Discarded water from showers, sinks, laundries, gallery and scullery activities, and deck drains.

BLACKWATER: Human body wastes and flushing water from water-closets and urinals.

GARBAGE: All forms of shipboard solid waste, including plastics, food waste, and dry wastes such as paper, cardboard, wood, metal, and glass.

GARBAGE (PLASTICS - FOOD CONTAMINATED)

GARBAGE (PLASTICS - NON-FOOD CONTAMINATED)

MEDICAL WASTE (INFECTIOUS AND SHARPS): Waste that is generated during patient diagnosis, treatment, or immunization.

The main federal regulations that govern these wastestreams are listed below, and the proper disposal procedures are summarized in Tables 7 and 8. Further information on their applicability to ships can be found in the three main Navy publications introduced above:

RESOURCE CONSERVATION AND RECOVERY ACT (RCRA): RCRA basically states that HW generated on vessels shall not be subject to storage, manifest, inspection or record keeping requirements until such waste is transferred ashore.

TOXIC SUBSTANCE CONTROL ACT: Restricts manufacture, use, labeling, and disposal of PCBs, asbestos, and asbestos-containing waste.

CLEAN WATER ACT: Outlines discharge restrictions. Specifics are in table 3. For more information on the problems of the CWA as it applies to the Navy, refer to William and Mary's Environmental Law and Policy Review, Volume 19/Number 1 dated Fall 1994; Regulation of Navy Ship Discharges Under the Clean Water Act by Daniel O'Toole.

THE ACT TO PREVENT POLLUTION FROM SHIPS (APPS): This implements the stringent oil and oily waste discharge requirements of Annex I of MARPOL, and implements MARPOL Annex V which addresses shipboard solid waste discharge at sea.

MARINE PLASTICS POLLUTION RESEARCH & CONTROL ACT: Passed in 1987. This is the U.S. enactment of MARPOL.

CLEAN AIR ACT: Ships must comply with regulations for air emissions.

U.S. PUBLIC VESSEL MEDICAL ANTI-DUMPING ACT: Prohibits public vessel dumping of medical waste into ocean waters during peacetime, except under emergency conditions.

TABLE 7

Appendix B3-C
DISPOSAL OF SHIPBOARD HAZARDOUS MATERIAL

Shipboard Hazardous Material Type	Generation Source	Associated Hazardous Material	Authorized Disposal Methods
Components containing polychlorinated biphenyls (PCBs)	Capacitors, coils (usually with radar systems) (listing by NSN of components containing PCBs for each ship has been provided under separate cover)	PCBs	Containerize for shore disposal
Chlorinated solvents	Cleaning operations	Perchloroethylene, trichlorethylene, trichlormethane, trichloroethane, freon™	Containerize for shore disposal; keep separate from nonchlorinated solvents
Nonchlorinated solvents	Cleaning operations	Ethyl acetate, acetone, morpholine, methyl ethyl keytone, toluene, xylene, kerosene, Stoddard solvent, petroleum naphtha (petroleum ether)	Containerize for shore disposal; keep separate from chlorinated solvents
		Ethylene glycol, methyl alcohol, ethyl alcohol, butyl alcohol	Overboard discharge permitted beyond 12 nmi of shore; in port, containerize for offload
Wastes from painting, resurfacing operations	Paints, enamels, varnishes, lacquers, paint chips	Petroleum distillates with lead/cobalt drier, cadmium, chromium, lead oxide	Containerize for shore disposal
	Thinners, strippers	Toluene, xylene, styrene, phenol, methyl isobutyl ketone, cresol, chlorobenzene turpentine	Containerize for shore disposal
Waste oils	Non-PCB containing capacitors, coils	Mineral, silicone, paraffin based oils	Containerize for shore disposal
	Cutting fluids	Chlorinated and sulfurized mineral oils, MIL-C-47220	Containerize for shore disposal
	Damping fluids	Silicone based oils, dimethylpolysiloxane	Containerize for shore disposal
	Lubricant oils from machinery, turbines, engines, motors	Lubricant oils in accordance with MIL-L-9000, MIL-L-15019, MIL-L-17331, and MIL-L-24467	Containerize for shore disposal
Oily sludge	Residue from oil/water separators, fuel tanks	Oil mixed with lead, zinc, chromium, copper, tin residues	Containerize for shore disposal

Appendix B3-C
DISPOSAL OF SHIPBOARD HAZARDOUS MATERIAL
(CONTINUED)

Shipboard Hazardous Material Type	Generation Source	Associated Hazardous Material	Authorized Disposal Methods
Oily solid waste	Contaminated sorbents, oil and fuel filters	Items coated with residual oil	Jettison beyond 50 nml of shore; discharge material must be negatively buoyant; containerize for shore disposal if within 50 nml of shore
Greases	Machine maintenance, motors, roller bearings	Greases such as: MIL-G-18458, MIL-G-18709, MIL-G-21164, MIL-G-24139, MIL-L-15719, DOD-G-24508	Containerize for shore disposal
Non-oily lubricants	Machine maintenance, motors, roller bearings	Lead oleate, dry lube, antiseize, molybdenum, graphite	Containerize for shore disposal
Water with corrosion inhibitors	Diesel generator cooling water, closed loop cooling water, locked-in ballast, fuel ballast	Ethylene glycol, sodium silicate	Overboard discharge permitted beyond 12 nml, of shore; within 12 nml, containerize for shore disposal. Containerize excess stock treatment chemicals for shore disposal
		Sodium chromate, solution mixed with residual fuel or soluble oil	Overboard discharge permitted beyond 50 nml of shore; within 50 nml, containerize for shore disposal. Containerize excess stock treatment chemicals for shore disposal.
Synthetic hydraulic fluids	Aircraft elevators, weapons handling systems, some ballast valve operating systems and replenishment at sea (RAS) systems	MIL-H-19457 fluids (cellulube, FYRQUEL, Houghto-safe 1000 series); WARNING: Contains a neurotoxin (tri-ortho cresyl-phosphate); wear protective clothing during handling. Warning does not apply to MIL-H-19457C fluids.	Hold for shore disposal; keep separate from petroleum hydraulic fluids
	Catapult retracting engines, jet blast deflectors, weapons elevators	MIL-H-22072 fluids (Houghto-safe); WARNING: Contains suspected cancer causing agents (nitrosamines); wear protective clothing during handling. Warning does not apply to MIL-H-22072C fluids.	Hold for shore disposal; keep separate from petroleum hydraulic fluids
	Missile holddown and lockout systems	MIL-S-81087 fluid contains chlorinated phenyl methyl polysiloxane	Hold for shore disposal; keep separate from petroleum

Appendix B3-C
DISPOSAL OF SHIPBOARD HAZARDOUS MATERIAL
(CONTINUED)

Shipboard Hazardous Material Type	Generation Source	Associated Hazardous Material	Authorized Disposal Methods
Propellants	Torpedo overhaul	OTTO fuel II, substituted hydrazine	Containerize for shore disposal
Petroleum hydraulic fluids	Machinery, heavy lifts elevators, trucks	Fluids in accordance with MIL-H-17672, MIL-H-17331, MIL-F-17111, MIL-H-5606	Hold for shore disposal; keep separate from synthetic hydraulic fluids
Spent acid	Cleaning	Acetic acid, citric acid, hydrochloric acid, sulfuric acid, sulfamic acid	Carefully neutralize with a weak base, dilute and flush overboard using large amounts of water
Spent alkali	Cleaning, deoxidizing	Sodium hydroxide, potassium hydroxide	Carefully neutralize with a weak acid,dilute and flush overboard using large amounts of water
Metal plating, electroplating solutions	Metal plating, electroplating operations, etching, activating operations	Acetic acid, formic acid, hydrochloric acid, sulfuric acid, nitric acid, fluoroboric acid and phosphoric acid contaminated with lead, zinc, chromium, copper, and brass	Containerize for shore disposal
		Sodium hydroxide contaminated with lead, zinc, chromium, copper, and brass	Containerize for shore disposal
		Sodium cyanide contaminated with lead, zinc, chromium, copper, and brass	Containerize for shore disposal; keep separate from other plating solutions
Firefighting materials	Firefighting, testing of fire-fighting equipment	Protein foam, AFFF (perfluorocarbon compounds mixed with polyoxyethylene compound)	Overboard discharge permitted beyond 12 nmi of shore, preferable while ship is underway; in port and within 3 nmi of shore, discharge to tank, barge or truck*; between 3 to 12 nmi overboard discharge permitted with minimum 10-knot speed
Boiler and boiler water wastes	Boiler blowdown, continuous boiler water treatment tank	Trisodium phosphate, disodium phosphate, hydrazine, morpholine, sodium nitrate, EDTA	Overboard discharge of blowdown effluent permitted, inside 12 nmi, continuous boiler water treatment tank contents must be disposed of ashore; containerize excess stock boiler water treatment chemicals for shore disposal

*Contact local Public Works Center/Public Works Department for authorized procedures.

Appendix B3-C
DISPOSAL OF SHIPBOARD HAZARDOUS MATERIAL
(CONTINUED)

Shipboard Hazardous Material Type	Generation Source	Associated Hazardous Material	Authorized Disposal Methods
Boiler and boiler water wastes (continued)	Boiler water test chemicals	Nitric acid, EDTA, mercuric nitrate, potassium chloride, phenolphthalein	Containerize excess reagents, and samples containing mercuric compounds for shore disposal; if available, process mercuric samples through ion exchange cartridge; overboard discharge of cartridge effluent permitted; containerize exhausted cartridge for shore disposal
	Boiler waterside cleaning solutions	EDTA, citric acid	Overboard discharge permitted beyond 50 nmi of shore, in port, offload to donut, tank, barge, or truck*
	Acid cleaning solutions	Hydrochloric acid, sulfamic acid	In port, offload to tank, barge, or truck*
	Passivator solutions	Sodium nitrite, potassium nitrate	In port, offload to tank, barge, or truck*
	Boilout solutions	Trisodium phosphate, sodium metasilicate	In port, offload to tank, barge, or truck*
	Feedwater demineralizer	Ion exchange resin with adsorbed metal ions	Containerize for shore disposal as plastics solid waste
Distilling plant cleaning wastes	On-line distilling plant chemical cleaning	Citric acid, trisodium phosphate	Overboard discharge permitted beyond 50 nmi of shore; in port, NOT USED IN PORT
Lead-acid batteries	Propulsion systems auxiliary lighting, communication and power systems	Lead, lead sulfate, lead dioxide, antimony, sulfuric acid electrolyte	Containerize for shore disposal; do not empty electrolyte from battery
Alkaline batteries: Nickel-cadmium Silver-zinc Nickel-iron Silver-cadmium Nickel-zinc	Auxiliary power systems, power supply for portable equipment	Nickel, silver, zinc, cadmium, potassium hydroxide electrolyte	Containerize for shore disposal; do not empty electrolyte from battery

*Contact local Public Works Center/Public Works Department for authorized procedures.

Appendix B3-C
DISPOSAL OF SHIPBOARD HAZARDOUS MATERIAL
(CONTINUED)

Shipboard Hazardous Material Type	Generation Source	Associated Hazardous Material	Authorized Disposal Methods
Dry cell batteries: Leclanche cells Mercury cells Low-temperature cells	Power supply for portable equipment	Manganese dioxide, mercuric oxide, zinc	Containerize for shore disposal
Lithium batteries	Power supply for portable equipment	Lithium, acetonitrile	Jettison in deep water (over 100 fathoms) beyond 50 nmi; in port, containerize for shore disposal (R
Battery water purification canister	Cation exchanger, mixed bed exchanger	Ion exchange resin with adsorbed metal ions	Containerize for shore disposal
Used/over-age OBA canisters	Damage control operations	Potassium superoxide, sodium chlorate	Jettison beyond 25 nmi of shore; preferably while underway; containerize for shore disposal if within 25 nmi of shore; contact with oil, grease, or water during storage is prohibited. Follow guidelines within NSTM chapter 079, Vol 2, Practical Damage Control
Medical and dental lab chemicals and materials	Dental amalgam used as filling material, thermometers, mercury from broken thermometers	Silver, silver nitrate, mercuric nitrate, mercury	Containerize for shore disposal
	Antiseptics, disinfectants	Isopropyl alcohol, hydrogen peroxide	Overboard discharge permitted beyond 12 nmi of shore; in port, containerize for shore disposal
Materials containing asbestos	Thermal insulation, pipe lagging, flooring tile, safety curtains	Asbestos	Properly wet to prevent creating airborne particles of dust, then containerize for shore disposal (R
Materials containing man-made vitreous fibers	Thermal insulation, pipe lagging	Man-made vitreous fibers (MMVF)	Properly wet to prevent creating airborne particles of dust, then containerize for shore disposal (R
Fluorescent light bulbs, other light bulbs containing mercury	Normal shipboard operations	Mercury	Retain for shore disposal
Insecticides, pesticides	Pest control operations	Diazinon, Baygon, Pyrethrin, Resmethrin, Dursban, Malathion	Containerize for shore disposal

Appendix B3-C

DISPOSAL OF SHIPBOARD HAZARDOUS MATERIAL

(CONTINUED)

Shipboard Hazardous Material Type	Generation Source	Associated Hazardous Material	Authorized Disposal Methods
Biocide VANTOCIL IB®	Water from the MK 41 Vertical Launch deluge system	polyhexamethylene biguanide hydrochloride sodium hypochlorite	Overboard discharge permitted beyond 25 nmi of shore; in port and within 12 nmi, containerise for shore disposal.
Color film processing waste	Continuous processor effluent, small quantities of processing liquids	Hydroquinone, sodium thiosulfate	Overboard discharge permitted beyond 12 nmi of shore; in port and within 12 nmi, containerise for shore disposal; do not discharge to CHT tank
	Excess film, batch quantities of developer, fixer and intensifier solutions	Hydroquinone, sodium thiosulfate, cellulose acetate	Containerise for shore disposal
Black and white, X-ray film processing waste	Continuous processor effluent, stop bath, photo-flo, detergents and hardener solutions	Acetic acid, potassium chrome alum, sulfuric acid	Overboard discharge permitted beyond 12 nmi of shore; within 12 nmi, containerise if facilities are available; in port, if ship has CHT system, discharge to CHT tank
	Excess film, batch quantities of developer and intensifier solution	Hydroquinone, ethanolamine, diethylene glycol, cellulose acetate	Containerise for shore disposal
	Fixer solutions	Sodium thiosulfate, silver, halides	Containerise for shore disposal; if available, process fixer through silver recovery unit; overboard discharge of unit effluent permitted beyond 12 nmi of shore; in port, containerise unit effluent for offload __For submarines:__ Containerise fixer solutions for shore disposal at all times (R
Contaminated sorbents; unrecoverable personal protective clothing; unpurged HM containers	Normal ship operations, spill response operations	HM that must be containerised for shore disposal (find specific containment in this appendix to learn if containerisation is required)	Containerise for shore disposal
		HM that may be discharged overboard (find specific contaminant in this appendix to learn if overboard discharge is required)	Jettison beyond 25 nmi of shore; discharged material must be negatively buoyant; containerise if within 25 miles of land

TABLE 8

SUMMARY OF NAVY POLLUTION CONTROL DISCHARGE RESTRICTIONS (Continued)
(Effective Until 31 December 1998)

AREA	GARBAGE (NON-PLASTICS)	GARBAGE (PLASTICS) (NON-FOOD CONTAMINATED)	GARBAGE (PLASTICS) (FOOD-CONTAMINATED)
U.S. Internal Waters & Territorial Seas (0-3 nm)	No discharge.	No discharge.	No discharge.
U.S. Contiguous Zone (3-25 nm)	Pulped or comminuted garbage may be discharged. Submarines see note (4)	No discharge.	No discharge.
>25 nm	Direct discharge permitted.	No discharge.	No discharge.
>50 nm & High Seas	Direct discharge permitted.	Retain last 20 days before return to port. Discharge if necessary.	Retain last 3 days before return to port. Discharge if necessary.
MARPOL "Special Areas" In Effect	Discharge food waste >12 nm. Minimize all other garbage discharges. When necessary, discharge all other garbage >25 nm. Report all non-food garbage discharges to CNO (N45) upon completion of operations.	Retain last 20 days before return to port. Discharge if necessary >50 nm. Report all discharges to CNO (N45) upon completion of operations.	Retain last 3 days before return to port. Discharge if necessary >50 nm. Report all discharges to CNO (N45) upon completion of operations.
Foreign Countries	Discharge food waste >12 nm from foreign coasts. Discharge all other garbage >25 nm.	No discharge.	No discharge
Comments	Garbage discharged should be processed to eliminate floating marine debris. Retain surplus material for shore disposal.	Record-keeping requirements exist for at-sea discharge. When plastics processor installed: No discharge.	Record-keeping requirements exist for at-sea discharge. When plastics processor installed: No discharge.

Notes:

(4) Submarines may discharge compacted, sinkable garbage between 12 nm and 25 nm, provided that the depth of the water is greater than 1,000 fathoms.

U.S. Internal Waters & Territorial Seas (0-3 nm)	No discharge.	Steam sterilize, store, and transfer ashore. No discharges.
U.S. Contiguous Zone (3-12 nm)	No discharge.	Steam sterilize, store, and transfer ashore. No discharges.
12-25 nm	No discharge.	Steam sterilize, store, and transfer ashore. No discharges.
>25 nm	No discharge.	Steam sterilize, store, and transfer ashore. No discharges.
>50 nm & High Seas	No discharge. >200 nm: See OPNAVINST 5100.19C, Appendix B3-C, for HM discharge guidance.	If health and safety are threatened, steam sterilize waste, package and weight for negative buoyancy, log, and discharge. No discharge of sharps permitted.
MARPOL "Special Areas" In Effect	No discharge	Steam sterilize, store, and transfer ashore. No discharges. If >50 nm and health and safety are threatened, steam sterilize waste, package and weight for negative buoyancy, log, and discharge. No discharge of sharps permitted.
Foreign Countries	No discharge	The packaging, handling, storage, transport, treatment, and disposal of infectious waste shall be as prescribed by applicable visit clearance, SOPA regulations, and port guides
Comments		Dispose of all sharps ashore. Do not incinerate plastic, wet materials. Steam sterilization requirement not applicable to submarines. Other non-infectious waste may be disposed of as garbage and does not require steam sterilization.

U.S. Internal Waters & Territorial Seas (0-3 nm)'	No discharge.	If equipped to collect graywater in CHT system, collect and pump to shore when pierside. If no collection capability exists, direct discharge permitted.	No sheen. If equipped with OCM, discharge <15 ppm oil. (1)
U.S. Contiguous Zone (3-12 nm)	Direct discharge permitted.	Direct discharge permitted.	No sheen. If equipped with OCM, discharge <15 ppm oil.(1)
12-25 nm	Direct discharge permitted.	Direct discharge permitted.	If equipped with OCM, discharge <15 ppm oil. Ships with OWS but no OCM must pro cess all machinery space bilge water through OWS. (2) (3)
>25 nm	Direct discharge permitted.	Direct discharge permitted.	Same as 12-25 nm. (2) (3)
>50 nm & High Seas	Direct discharge permitted.	Direct discharge permitted.	Same as 12-25 nm. (2) (3)
MARPOL "Special Areas" In Effect	Direct discharge permitted.	Direct discharge permitted.	Refrain from discharging any oil or oily waste to the extent practicable without endangering ship or impairing operations. Otherwise, same as 12-25 nm. (2) (3)
Foreign Countries	Within foreign territorial seas (12 nm), see Visit Clearance or SOFA (as delineated in the Port Guide or LOGREQ reply). If sufficient guidance not available, no discharges within 3 nm when sewage reception facilities available. If not feasible, follow standards observed by host nation warships.	Within foreign territorial seas (12 nm), see Visit Clearance or SOFA (as delineated in the Port Guide or LOGREQ reply). If sufficient guidance not avail able, follow guidance above. If not feasible, follow standards observed by host nation warships.	Within foreign territorial seas (12 nm), see Visit Clearance or SOFA (as delineated in the Port Guide or LOGREQ reply). If sufficient guidance not available, follow guidance above. If not feasible, follow standards observed by host nation warships. (3)
Comments	Direct discharge allowed within 3 nm under emergency conditions.		State/local rules may vary; check SOPA regulations. Submarines: Direct oily waste to WOCT; when full and >50 nm, pump off bottom water phase.

Notes:

OWS	-	Oil-Water Separator
OCM	-	Oil Content Monitor
WOCT	-	Waste Oil Collecting Tank
SOPA	-	Senior Officer Present Afloat

(1) If operating properly, OWS discharge will routinely be less than 15 ppm.

ust retain oily waste for shore disposal. If operating conditions require at-sea permitted beyond 50 nm from nearest land.

:M and operating conditions prevent achieving less than 15 ppm, limit discharges to

ORGANIZATION AND TRAINING

The OPNAVINST 5100.19C outlines the HM Control & Management program for ships from the Commanding Officer down to all crew personnel. Responsibilities of Department heads, Division Officers, and the HMC is included. On board most ships, the Supply Officer is responsible for HM control and management. This makes sense, because he is responsible for the ordering of all stores and supplies. A HMC is assigned under the Supply Officer, and additional petty officers may be assigned to assist as necessary. In the case study, the HMC on the Destroyer was an OS1 who took over the job in Oct 1994 from the previous HMC, but did not receive any official training until Jun 1995. He attended the HM Control and Management course, see appendix D for course outline. Now the OS1 is aware of the "cradle-to-grave" responsibilities of managing HM. The OS1 is trained to use the basics of the HICS system, but no one else on board is. This is a collateral duty for the OS1. He has the boatswain mates that assist him with the paint lockers, but that is the extent of the HM organization on board the ship. The organization on board the Frigate is less organized, and there is only a slightly larger organization on the LHA despite the fact that there are over three times as many people on board. The HM Officer is the Material Division Officer. The HMC is an AO1 who actually runs the program on a day-to-day basis with 7 petty officers assisting him. The AO1 took over the position in November 1993. He did not have the official training, nor did the ship even have a HM program at this time. HMC is a full time job for the AO1, but the petty officers rotate out every six months or so. New personnel coming in to help with the program receive detailed OJT (on-the-job-training) from learning HICS to understanding the publications. Training for

all personnel includes safety standdowns twice a year. HM training is also part of PQS for Maintenance Man qualifications. This portion of their PQS must be signed off prior to handling HM. Every ship stated, though, that there was not enough specific training for all crew personnel, and that there should be an environmental rating established for the HMC position. As with most HM training, it appears to be too general. Individualized Department training is required to inform each department on how to use, store, and dispose of their specific HM. This is evident by problems with poor housekeeping habits, and personnel coming to HMC to check out HM for use, but come unprepared. They have been told by a supervisor to go get the HM, but the individual fails to get the proper protective clothing first. There is a lack of true understanding of the hazardous potential of these materials. Lack of training is also clear by the improper disposal procedures that have been followed. There also appears to be a lack of concern by several personnel in key positions on the ship. As previously stated, there is not enough emphasis being put on the HM program to make it an everyday way of life. Implementation of HICS and eventually CHRIMP will resolve a number of management issues, but does not cover good training that is necessary to make pollution prevention an everyday way of life. The HM Control & Management course is a very good training course, and should be attended by several personnel from the Engineering Department, Supply Department, and Operations Department instead of just the HMC. This awareness through training can help guide the rest of the ship. Be aware that support and commitment from the top down is still necessary for a successful program.

TECHNOLOGY

Federal, state, and international regulations with respect to waste management on board ships have increased restrictions dramatically over the past decade. These restrictions have ended routine overboard disposal of waste generated by Navy ships. Because of this and Navy's environmental responsibilities as a whole, numerous programs as discussed earlier have been developed. These programs, especially the R&D, have major research, development, test, and evaluation efforts underway to develop suitable shipboard waste processing systems. The waste streams being evaluated include oily wastes, non-oily wastewater, hazardous materials, and solid wastes.

The international community under MARPOL continues to designate special environmentally sensitive waters where overboard disposal of wastes is prohibited. This requires the Navy to find acceptable disposal locations, off-load in domestic waters, or off load at overseas ports. This results in increased storage of wastes on board ships and increased costs to dispose of them. Storage space on ships is limited to begin with, and storing large quantities of waste on ships creates a safety and health risk to the crew as well as reduces the crew's morale. Solid waste can be found lining ship passage ways, and in crew lounges designated for recreation and relaxing. These issues make the need for onboard waste processing systems even more critical.

In addition to space constraints and safety and health issues, other factors that enter into the equation in developing waste processing systems include its size and weight, its reliability and maintainability, sturdy structure to withstand shipboard movements, heat generation during operation, complexity to operate, electromagnetic compatibility with other shipboard equipment,

noise restrictions, potential shore-side support for offloading processed wastes, the ultimate disposal of the end products, and definitely not least is the cost of acquisition, operation, and maintenance. In developing "greener" equipment that keep the above factors in mind, it must also be remembered that it can take up to 20 years to design a ship platform for a ship that may be in operation for up towards 40 years; while regulations and federal laws change on a yearly basis. As can be seen, meeting the unique military requirements and constraints imposed by physical and operational responsibilities of a warship, the Navy is faced with the challenge of designing new ships that will accommodate the environmental needs of the future, and developing systems that can be installed in today's ships. The long term goal is to develop shipboard environmental protection systems that will enable the ship to function in an environmentally acceptable manner with minimal shoreside support. An environmentally sound ship. On the short end, the goal is to reduce waste generation by better managment, HM substitution, and retrofitting of ships with technology that is available today.

The following discusses technologies that are currently being studied for shipboard use. These systems are at different stages of the testing and evaluation of the development cycle, and several items are already successfully in use on board specific ships. As previously discussed, typical shipboard wastes include oily bilge and ballast water; blackwater from water-closets and urinals; graywater from laundries, scullery, lavatory, and showers; hazardous materials; solid wastes including food waste, paper, metal, glass, and plastics; and medical wastes. As with different wastes, there is different meanings when it comes to new technologies. For hazardous materials, new technology means HM minimization. This include reduction of HM use at the source by developing new cleaning compounds, solvents, lubricants, and adhesives that are

"greener", or deleting the HM from the maintenance process altogether. Where these technologies are not affective, methods of recycling and disposal are being sought in line with P2 policy.

HAZARDOUS MATERIAL MINIMIZATION

PD-680 Type II. PD-680 is a petroleum based dry cleaning and degreasing solvent used extensively on board ships. Over 5900 Maintenance Requirement Cards (MRC) require it for planned maintenance, corrective maintenance, incidental clean up, and facility maintenance. This adds up to over 80,000 gallons purchased per year. The main concern with this solvent is that it contains hazardous constituents and VOCs, and is therefore on EPA's list of hazardous chemicals. Use of this solvent requires ships to dedicate space for flammable liquid storage lockers for storage, and spent solvent must be stored until it can be off-loaded. A multi-disciplinary task force was created to identify and evaluate alternative materials and process changes for PD-680 Type II. Depending on the MRC process, a number of options have been established. They include no cleaner use to perform some maintenance (rag or brush is sufficient), use a mild aqueous or semi-aqueous cleaning agent instead, use PD-680 type III, or just replace the part. Presently, the main recommendation is for all ships to use Type III whenever possible to minimize Type II use. PD-680 Type III has an increased flashpoint, lower aromatic content, andlower vapor pressure that will reduce hazards to the personnel and to the environment. These efforts are progressing well. Coordination among several activities and groups also working on solvent substitution efforts is needed before any official guidance is put out on implementation of recommendations from the task force.

OIL/WATER SEPARATORS (OWS)

When fuels, lubricants, greases, oils, and hydraulic fluids mix with water in the bilge, an oily waste results. Typical concentrations of petroleum hydrocarbons in bilge water rarely exceeds 1000 to 2000 ppm; while regulations limit discharges to <15 ppm. The Navy has developed 10 gpm gravity, parallel-plate, OWS for bilge water treatment. The Navy model 10N and 10NP OWSs are installed on over 60% of the Navy ships. In addition, oil content monitors (OCM) are being installed to measure OWS effluent oil concentrations, and recycle the effluent if the monitor detects concentrations above the preset discharge limits. A future concern for oily waste is regulations may require the removal of trace contaminants from the effluent of OWSs. Though the Navy has not detected any trace contaminants from the bilge waste that could be classified as hazardous, technology for secondary bilge waste treatment is being evaluated. Current leading technologies include **ultrafiltration**, **electrocoagulation**, and **biological treatment**. Ultrafiltration is a promising technology in prototype stages that couples a membrane system to the 10NP OWS. It has demonstrated it is capable of separating water from emulsified oil and detergents, leaving effluent concentrations below 1ppm.

WASTEWATER MINIMIZATION AND TREATMENT

Non-oily wastewater includes blackwater and graywater. Non-oily wastewater is held onboard in collection, holding, and transfer (CHT) systems when ships are in transit, and is transferred to shore-side facilities for treatment when in port. Ships are allowed to discharge blackwater as permitted when beyond 3nm (see Regulation section), and graywater when in transit. The Navy is seeking technologies to minimize the volume of wastewater generated and

develop effective methods to treat the wastewater which remains. One example is a **vacuum CHT system** which generates only 10 percent of the blackwater of a traditional gravity-flush system. A computer program to design piping systems has been developed to broaden the application of vacuum CHT systems to new ship classes. **Low water use appliances** are also being evaluated for laundry and dishwashing. **Low-flow showers** are already in the fleet and do reduce the volume of wastewater dramatically. On the treatment end of this wastewater, technologies under consideration include **vapor compression distillation**, **ultrafiltration**, and **supercritical water oxidation**. Other areas are being considered to improve the existing CHT system. The failure-prone vacuum pumps are being replaced with sewage powered eductors, and installation of glass-reinforced plastic piping to last under the highly corrosive sewage CHT system environment, and improved vacuum flush water-closets and vacuum-gauge isolators have been developed.

PLASTICS WASTE PROCESSORS

Presently, a Navy ship generates 3 lbs of solid waste per person each day. Seven (7) percent of this is plastic. 01 Jan 1994 marked the regulatory deadline for the total ban of overboard disposal of plastics waste at sea. The Navy's policy to reduce plastics discharge at sea was to separate and store non-food contaminated plastics for the last 20 days prior to pulling into port, and the last 3 days if food contaminated. This 20/3 rule reduced plastics waste discharge by 70%. In dealing with the storage problems, the Navy developed **plastic waste processors** that sanitize and compact unsorted plastic wastes into stabilized blocks for storage. Waste volume reduction of 30 to 1 has been achieved. Plastic waste is first shredded by a solid waste

shredder and then placed in a compress melt unit (CMU). The CMU heats and compresses the plastic while excess liquid is evaporated. The result is a 20 inch diameter disk that weighs approximately 20 pounds. this is at a processing rate of 30 pounds per hour. A feasibility study is being conducted on the ability to recycle post-consumer shipboard plastic waste once off-loaded by shore-side facilities. Minimization of plastic packaging, and substitution of some non-plastic items has contributed to the reduction of plastics waste.

FOOD WASTE DISPOSERS

Navy models 3, 3S, and 5 **food waste disposers** have been installed in the fleet to help deal with the solid waste management problems. The American Delphi 75AD food waste disposal system is a self-contained and manually operated for size reduction of soft food wastes only. The waste is discharged in a waterborne slurry at a water rate of approximately 2.5 gal/min.

VERTICAL TRASH COMPACTORS

The **vertical trash compactor** is designed to compact non-food containing shipboard solid waste, including bottles, metal cans, cardboard, and paper into slugs suitable for storage until they can be transferred ashore for disposal or discharge. Other trash compactors developed include the Automated power systems model 4630 Trash Compactor. This is a horizontally configured trash compactor with a compaction chamber that produces slugs of trash 14 inches in diameter by using a ram face pressure of approximately 300 psi. This compactor is powered by a remote electrohydraulic unit. Auto-pak VC-W16H Trash Compactor is a vertically configured

trash compactor with height, width, and depth dimensions of 72x36x19 inches. It has a compaction container capacity of 2.5 ft^3. This model's hexagonal ram develops ram face compaction pressures of approximately 64 psi.

SOLID WASTE PULPER

The **solid waste pulper** has been designed to safely reduce shipboard galley wastes, paper wastes, cardboard and classified documents into a neutrally or negatively buoyant biodegradable homogenous slurry for environmentally acceptable discharge overboard. The pulper will process 500 lbs/hour. SOMAT Solid Waste Pulper (SWP). this system processes paper, cardboard, galley waste, and classified documents at rates of 500-1000 lb/hr. It produces a slurry that can be discharged at 3 nm from shore versus 25 nm for unpulped solid waste. The discharge of slurry can continue during flight operations. The SWP separates incidental non-pulpables. The unit features automatic control and a simplified interface for the operator. Combinations of pulpers and shredders do exist. The pulper installed on the USS George Washington was for mixed paper and food waste generating a 1 to 2% seawater slurry for overboard discharge at a rate of 680 pounds per hour. Their shredder was specifically for metal and glass that was processed into a sinkable form.

INCINERATORS

COPPUS SK25M3 INCINERATOR is a marine incinerator designed for on-board incineration of a ship's waste oils and solid refuse. The incinerator is capable of burning classified materials, Type II, and Type III waste. the heat values are 7500, 4300, and 2500 Btu/lb, respectively. the

incinerator is equipped with a water-cooled, revolving feed-in hatch or sluice which will permit safe operation by eliminating the possibility of "flare-back" or "backfire". The high temperature in the combustion chamber of 2200 to 2700 degrees F will allow smokeless and complete incineration. the combustion chamber is equipped with a specially constructed "tyro-flame" burner which is a low pressure "oil sludge" burner which also burns all grades of fuel oil. Though incinerators exist on several ships, and operate successfully, they are not considered environmentally "green" by the public because of the air emissions. They are being replaced by technologies such as the pulpers and shredders.

SOURCE MINIMIZATION

Source minimization is the primary focus of the Navy's **hazardous waste management**. The Navy is actively pursuing the elimination of non-essential hazardous materials and replacing them with non-hazardous substitutes. This has been successful in the area of lubricants, greases, and solvents. **Ion-exchange cartridges** have been introduced to minimize waste by treating mercuric chloride waste produced during the analysis of boiler water and feedwater. The ion-exchange cartridge removes the mercury from the waste and produces an effluent suitable for overboard discharge at sea. It reduces the volume of mercury contaminated water by 1700 to 1. The mercury concentrated in the cartridges is reclaimed by a recycler, making disposal of the cartridge easier.

CFC ALTERNATIVES

Presently, there are no technologies in place as substitution for the 3 types of CFCs currently used by the Navy; CFC-11, CFC-12, and CFC-114.There are over 3,000 shipboard air-conditioning and refrigeration plants that use these CFCs. In developing alternatives, they are finding the next best chemical tend to be the HCFCs which are to be banned in the next 20-40 years. The Navy, as a result, is trying to find a suitable replacement that will be acceptable for the life expectancies of ships currently being designed. In the mean time, technologies to eliminate atmospheric releases of CFC refrigerants and recycle them for reuse are being developed such as the Antifreeze Recycler. Portable recycling units have been used on shore for the last 4 or 5 years successfully, but they need to be modified to stand up to strenuous conditions of a ship. the basic unit removes all dissolved solids from the used antifreeze, and the old coolant is returned to pure ethylene glycol and deionized water. Additives are used to restore antifreeze to proper pH levels.

Another area for the Navy is the industry-standard Halons used for firefighting, and Halon 1301 for fire protection systems. The Navy's goal is to find Halon replacements, but for now is developing recovery/recycling technologies to conserve existing inventories and drastically reduce unintentional emissions of the chemicals.

The items discussed above are really just an interim measure until the Navy can develop a complete system to handle shipboard waste. Items like the shredder and pulpers are efficient waste processing devices, but they still produce a discharge. The Navy needs to be able to operate ships anywhere in the world without environmental constraints, but Congress directed in the Defense Authorization Act of 1994 (PL 103160) that the Navy fully comply with Annex V of

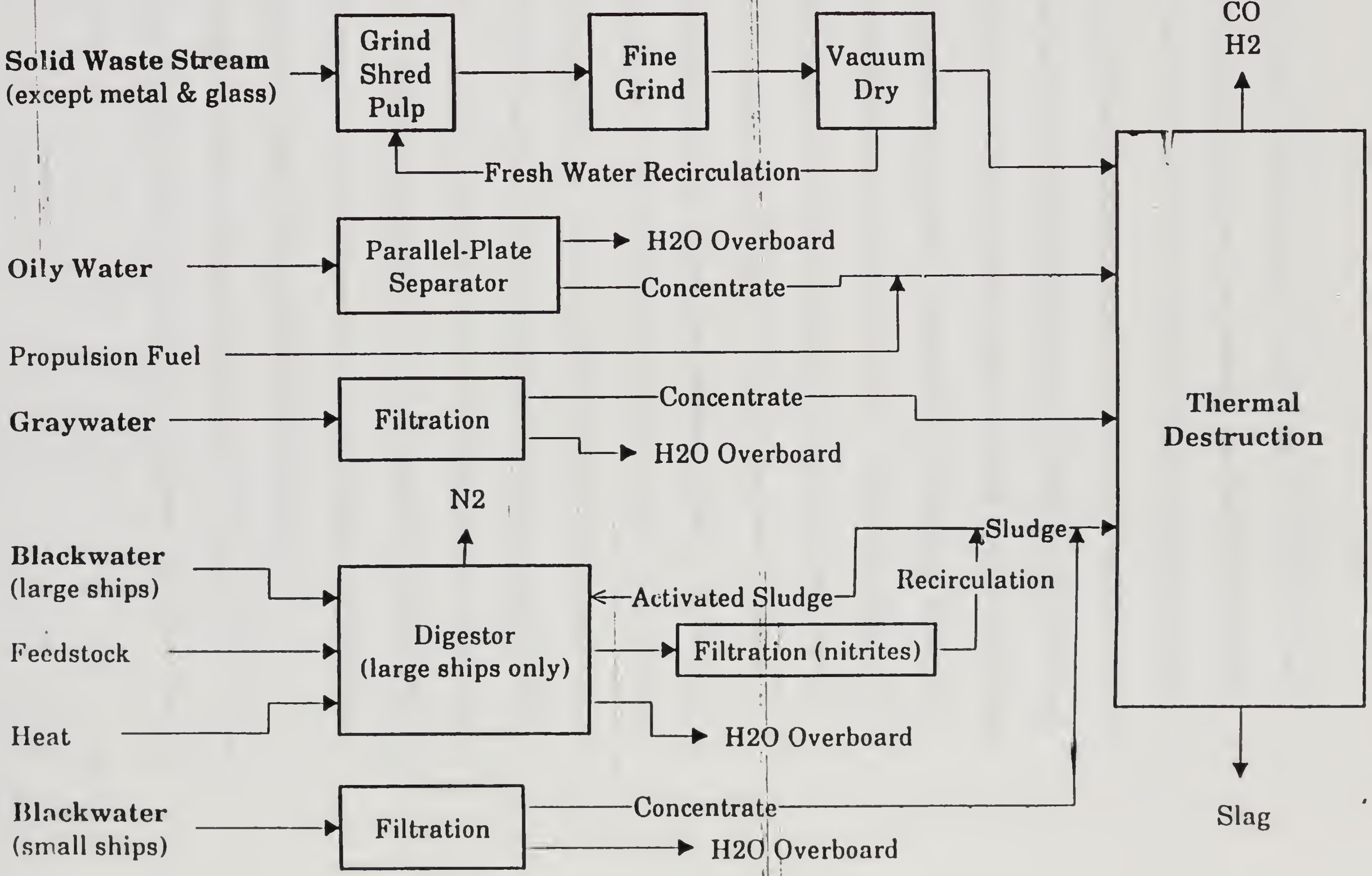
the MARPOL by 2000 for surface ships. As previously stated, annex V directs that no discharge of solid waste will be made into waters of the nine special areas. Combatant ships were not designed to be able to store solid waste for an extended period of time, and extensive studies of commercially available waste processing technologies show that size, weight, and cost of installation on combatants is too great. The Navy is developing a unique application of plasma arc pyrolysis that appears to be the only practical approach for resolving shipboard waste depending on who you talk to. Plasma arc pyrolysis technology provides a cost effective means for safe thermal destruction of solid and concentrated liquid shipboard waste.

The intent is to provide a centralized waste processing system on board a Combat Logistics Force (CLF) ship. The Navy combatants will transfer their waste to a CLF during underway replenishment while in a special area, and use the pulpers and shredders when outside the MARPOL areas. Plasma arc technology appears to be the most promising solution, because of its potential for greater reliability, higher temperatures, better temperature control, and greater capacity relative to standard incinerators. The pyrolysis process is described as an irreversible chemical change in the waste brought about by the effect of heat in an atmosphere devoid of oxygen. The products of this chemical reaction can be solid, liquid, or gas. In plasma arc pyrolysis, an electric are generating a high-energy plasma is used to decompose the waste. The temperature of the plasma when it contacts the waste is about 21,000 to 27,000 degrees F. As the plasma decays, it transfers its energy to the waste which is instantly atomized into its elemental constituents. These atoms then recombine into simple molecules that can be readily oxidized in a secondary burner or chamber. Inorganic residue that is not converted to a gas is collected as a molten pool in the bottom of the reaction chamber and is tapped off as necessary.

The process maximizes volume reduction of wastes up to 95% with only 5% of inorganic slag accumulation. Figure 5 outlines the shipboard integrated pollution abatement concept. Funding has been set aside through FY99 for the development and fabrication of a full-scale plasma arc system that will demonstrate destruction of waste while meeting all air emission regulations. Expected date for incorporation into the Navy is targeted for FY00-FY03 for prototype on board a CLF and FY06-FY10 for installation into the fleet. The Navy will utilize other technology in the interim to ensure compliance by 2000. This technology is very important. It will give the Navy access to all navigable waters of the world with a high degree of shore independence. The tethered logistics support of a shore-based infrastructure for waste disposal is not an option. Besides the benefits of independence, it can be seen that such technology would improve stealth characteristics, sanitation, personnel hygiene, safety, and cost savings would be realized. For more specifics on this technology and program development, the OPNAV N452 Program Sponsor can be contacted. Note that even though this technology appears promising, it and other programs like it may not survive upcoming budgets.

FIGURE 5

SHIPBOARD INTEGRATED POLLUTION ABATEMENT CONCEPT
National Academy of Sciences / Naval Studies Board



CONCLUSIONS

Some conclusions drawn from the programs, case study, and technologies are quite simple and clear. The Navy must take action to find solutions to environmental issues by the regulatory deadlines. But is this clear? What if during their Report to Congress, the Navy is given an extension to the solid waste prohibition deadline, or they modify the standard to be less stringent? The point is there are no simple or convincingly clear solutions to any of the Navy's pollution prevention problems. Even the barrage of problems that have paraded over the pages of this project time and time again are not clear. At one point, the P2 problems appear severe, and then you look at another ship that has it under control and is actually making headway with P2 efforts. The complexity of problems that exist change with the size and type of a ship. A small ship such as a Frigate does not have the space for the plastic processors, shredders, pulpers, etc...or the manpower to operate, and maintain additional equipment. But because they are small, the volume of waste generated is minimal compared to a Carrier. The Carrier has room for the additional equipment, but even with the processing equipment the amount of by-products being produced that must be transferred is enormous. What is the overall solution to the discharges issue? Is an integrated system that will process all discharge type wastes the path to take? Is reinventing the ship design the answer? The Navy's approach to right sizing the Navy is consolidation. So why put individual systems on all these ships; dedicate a support ship just to waste management that would be part of a carrier battle group or smaller force.

From analyzing the case study and the problems that exist for the ships, there are various worthy programs that are working towards a comprehensive P2 program. For the near future, the

P2 Afloat program is closest to incorporating all areas of shipboard waste management. The implementation of HICS and eventually CHRIMP on board ships will reduce the use of HM. Add the HM substitutions, process modifications, and P2 equipment being developed by the P2 Afloat program to this, and ships should experience significant decreases in their HM, solid waste, and discharges. From the management practices witnessed in the case study, CHRIMP/HICS will make a big impact in reducing wastes, but it will be awareness, training, and leadership from the top down that will make this a successful program.

In trying to summarize the Navy's P2 efforts and the problems it faces, a listing of problems in a somewhat prioritized form follows; some problems are the view of higher management and others are from the working level:

1. The regulatory requirements change faster than the Navy can respond, but it will be the regulations that drive the funding for projects.
2. Not enough funding to do it all; R&D, studies, task forces, equipment, etc..So even if a number of technologies are found to work successfully, the program supporters who lobby and obtain the backing will get the funding to implement their program.
3. There is no clear guidance and support from the top down. Numerous programs are going on simultaneously, making it very difficult to stay informed. At this time, even though everyone is aware of P2 issues, there is still not enough emphasis to push it to the point that it becomes an everyday way of life for the ships.
4. The lack of commitment by everyone. Just like TQL; all or nothing.
5. Missions are being impacted because of regulations, and ships are underway for longer periods of time when they are out.

6. The lack of training and awareness makes it difficult to manage wastes.
7. There is not enough space, especially on the small ships for P2 equipment.
8. The safety, health, and morale of personnel is at risk due to the pollution.
9. Current Technologies are hard to adapt for ships, and not all do a good job.
10. Not enough manpower to operate and maintain additional equipment.
11. No standardization of disposal procedures from port to port.

The list goes on depending on your point of view. Even with all these problems, the forces afloat are currently in compliance with present regulations (except HM management problems). And with the help of the P2 Afloat Program and the design programs for future ships, the Navy is making headway towards reaching compliance with future regulations.

One thing is for certain. For the near term until the Navy does develop a comprehensive P2 program, P2 efforts will be most successful on ships that seriously want to participate in the P2 program; who take the initiative and develop some type of control and management that works for them, and gets involved at the TYCOM level to obtain existing P2 funds and support from the CINCs. They will need to find inexpensive and easy to implement changes until major changes are mandated Navywide, and must make P2 efforts part of their everyday lives on board the ship.

BIBLIOGRAPHY

1. Naval Surface Warfare Center Carderock Division, Ships Materials Engineering Department. Catalog of Shipboard Pollution Abatement Systems. By Sheila B. Riggs. CARDIVNSWC/ SME-92/49 Bethesda, Maryland. July 1993
2. The Navy's Shipboard Waste Management Research & Development Program. By Arthur Smookler & Craig Alig. Naval Engineers Journal, May 1992.
3. Carderock Divison NSWC; Plasma-arc Pyrolysis of shipboard soild waste. By Craig Alig. 01 Mar 1995.
4. OPNAV N452. Plasma arc Pyrolysis of shipboard waste. By Mr. Larry Koss. 10 March 1995.
5. The Ships and Aircraft of the U.S. Fleet. 14th edition. By Norman Polmar. Naval Institute Press. Annapolis, Maryland.
6. OPNAVINST 5090.1B. Environmental and Natural Resources Program Manual. 01 November 1994.
7. S9086-T8-STM-010. Naval Ship's Technical Manual. Chapter 593, Pollution Control. 2nd revision. 15 April 1989.
8. OPNAVINST 5100.19C. Occupational Safety and Health (NAVOSH) Program Manual For Forces Afloat. 19 January 1994.
9. William and mary environmental Law and Policy Review. Regulation of Navy ship Discharges Under the Clean Water Act: Have too Many Chefs Spoiled the Broth? By Daniel E. O'Toole. Volume 19/Number 1. Fall 1994.

10. Pollution Prevention. By Louis Theodore and Young C. McGuinn. Van Nostrand Reinhold, New York, 1992.

11. Navy Ships Parts Control Center. Ships Hazardous Materials List. Mechanicsburg, Pa. October 1990.

12. Better Engineering, Inc. GSA contract #GS07F-5778A. Maintenance & Repair Shop Equipment/cleaning Systems.

13. USS George Washington. HICS User's Catalog. July 1995.

14. Carderock Division, Naval Surface Warfare Center. Pollution prevention afloat reduction of P-D-680 Type II in Planned Maintence System. By Naval Sea Systems Command. August 1994.

15. Shipboard Solid Waste Equipment Successfully Evaluated by Carderock Personnel. By William Upton and Elizabeth Rose. On The Surface. April 1995.

16. Navy P2 Afloat Program. Interview with Program Manager, Dave Asiello (N45). July 1995.

17. NAVSEA 03V. Development of an Environmental GENSPEC: An Environmental Initiative by the Ship Design Standards PAT. By RADM Schriefer. 19 June 1995.

18. Consolidated Hazardous Material Reutilization and Inventory Management Program (CHRIMP). CHRIMP Manual. 1994.

19. Navy Times. Ships at Sea. 03 July 1995.

20. Center for Naval Analyses. Ship Solid Waste Study Interim Results. By Paul Speer. 17 February 1995.

APPENDIX A

HI0604
05/17/95

HAZARDOUS INVENTORY CONTROL SYSTEM

Re-Order List

Part Number	COG	Nat'l Stock Number	Nomenclature	Military Specification	Qty On Hand	Low Limit	High Limit	U/I	U/I PRICE
— 2327		5970-00-233-6239	INSULATE ELECTRIC COMPOUN	30648	0	4	7		0.00
✓1620		5970-00-962-3335	SCOTCH KOTE		3	5	9	CN	4.00
✓2416		6505-00-133-6000	MINERAL OIL		0	2	4		0.00
—		6505-00-753-4773	DEODORIZER		0	2	5		0.00
— 0367		6505-00-994-7224	T-SCRUB IODINE		0	4	6		0.00
— 0698		6505-55-261-7256	ALCOHOL, ISOPROYL	37443	0	2	4		0.00
— 0006		6810-00-184-4796	ACETONE		0	1	2		0.00
— 3744		6810-00-241-1203	CUPRIC SULATE	265	0	2	5	LB	0.00
✓1297		6810-00-264-6618	SODIUM BICARBONATE	576	0	3	5	LB	0.00
— 0256		6810-00-281-2014	CITRIC ACID MONO	2658	0	3	5		0.00
✓0038		6810-00-543-7415	ALCOHOL, DENATURED	760	0	5	10	GAL	0.00
✓0887		6810-00-597-3608	METHANOL	O-M-232G	0	4	8	GL	0.00
✓ 3533		6810-00-687-8429	METHYL KEYTONE TECH	740-84	0	3	6		0.00
—		6830-LL-N23-7533	PROPANE, CYLINDERS		4	5	8		0.00
✓1580	9G	6850-00-005-5305	AIRCRAFT CLEANING COMP AE	MIL-C-43616C	2	4	6	DZ	48.00
		~~6850-00-~~066-2333	CORROSION PREVENTION CMPD	14098	0	1	1		0.00
— 2283	9G	6850-00-110-4498	DRY CLEANING SOLVENT TYPE	PD680	0	5	10	PT	1.50
✓3867		6850-00-148-7161	AVIONICS CLEANER		0	4	8	CN	0.00
✓		6850-00-181-7594	CLEANING, CMPD ENGINE	857048	2	5	9	GAL	0.00
—3638		6850-00-188-9875	CLEANER, OPTIC LENS	43454	0	3	6	BT	0.00
— 0282		6850-00-224-6657	RIFLE CLEANING COMPOUND	372	0	5	10		0.00
✓0280		6850-00-392-9751	CLEANING COMPOUND	43454	0	1	1		0.00
✓1761		6850-00-405-9385	FREEZING COMPOUND		0	3	5		0.00
— 1255		6850-00-664-4959	SILICONE COMPOUND	21567	0	4	5	GAL	14.00
— 1258		6850-00-702-4297	SILICONE COMPOUND	21567	0	4	9	TU	4.00
✓1259		6850-00-880-7616	SILICONE COMPOUND	8660 DC-6	2	4	9	TU	4.00
— 1254		6850-00-963-5402	SILICONE COMPOUND	21567	0	6	9	TU	4.00
✓0284		6850-00-965-2359	CLEANING COMPOUND	22230	0	1	1		0.00
— 0979		6850-00-973-9091	PENETRATING FLUID	216	0	4	7	CN	3.00
✓1580		6850-01-045-7929	CLEAN, AIRCRAFT COMPOUND	43616	2	5	8	GAL	32.00
✓0697		6850-01-277-0595	COMPOUND, CLEANING	134 HI-SOLV	0	4	6	GAL	0.00
— 3570		7930-01-323-2005	WAX AIRCRAFT	1600	0	3	6		0.00
— 1591		8030-00-081-9022	SEALING COMPOUND	22473-B	0	3	5		0.00
✓0054		8030-00-087-8630	ANTISIEZE, MOLY B	83483	0	3	9		0.00
✓ 1227		8030-00-209-8005	SEALING COMPOUND	S1732	0	5	10	PT	3.00
✓0318	9Q	8030-00-244-1297	CORROSION PREVENTION COMP	MIL-C-16173D	2	4	8	GL	12.40
✓1232		8030-00-252-3391	SEALING COMPOUND	45180	0	6	9	TU	4.00
~~0312~~		~~8030-00-272-5830~~	CORROSION PREVENTION	18487	1	2	4	GL	25.00
✓0312		8030-00-272-8530	CORROSION PREVENTION CMPD	18487	0	2	4		0.00
✓0059		8030-00-286-5453	ANTISIEZE, COMPOUND	907D/E	0	2	5		0.00
—0055		8030-00-292-1102	ANTISIEZE, COMPOUND	22361	0	8	20		0.00
— 1234		8030-00-656-1426	SEALING COMPOUND	45180 TY3	0	5	9	PT	5.00
— 0331		8030-00-823-8039	CORROSION, RESISTANT	81706	0	1	1		0.00
—		8030-00-965-2004	SEALING COMPOUND	8802F	0	4	6		0.00
✓1561		8030-01-041-1609	PLASTISOL COMPOUND	20689-D	0	2	5		0.00
✓0058		8030-01-044-5034	ANTISIEZE, COMPOUND	55448	0	3	5		0.00
— 0041		8030-01-163-3483	SEALING, COMPOUND		0	2	3		0.00
- 0062		8030-01-275-5050	ANTISEIZE DOW		0	4	8		0.00
✓0030		8040-00-144-9774	RTV/GRY	46146	0	5	7		0.00
✓0030		8040-00-145-0020	RTV/GRA	46146	0	5	7		0.00

HAZARDOUS INVENTORY CONTROL SYSTEM

Re-Order List

```
                                                                    Military       Qty    Low  High            U/I
ber           COG Nat'l Stock Number   Nomenclature                 Specification  On Hand Limit Limit  U/I     PRICE
============= === ==================== ============================ ============== ======= ===== ===== ======= ========

              9Q  8040-00-262-9031     ADHESIVE RUBBER BASE GEN     MMM-A-1617B          1     2     8 QT          5.50
                  8040-00-515-2246     ADHESIVE, POLYCHLORO         5540B                0     2     3             0.00
                  8040-00-664-4318     RUBBER CEMENT                1617-A               0     1     2 PT          0.00
                  8040-00-843-0802     RTV/RED                      46106B               0     5     7             0.00
                  8040-00-865-8991     RTV/BLK                      46106B               0     5     7             0.00
                  8040-01-023-4173     ADHESIVE, SCOTCHGRIP                              3     5     8             0.00
                  9150-00-141-6770     GREASE, BEARING AND ROLLE    25013                0     2     5             0.00
                  9150-00-145-0268     GREASE, AIRCRAFT             81322                0     3     6             0.00
                  9150-00-223-4116     OIL, LUBE GEAR               6086                 0     3     5             0.00
                  9150-00-223-4134     FLUID, HYDRALIC              5606 RED             0     2     4             0.00
                  9150-00-231-6689     LUBE OIL                     800C                 1     3     5 QT          3.00
                  9150-00-231-9045     OIL, LUBE                    820                  0     2     3             0.00
                  9150-00-240-2235     LUBE OIL. GEAR               6086                 1     2     4 PT          0.00
                  9150-00-250-0933     PETROLATUM TECH              236A                 0     4     7 GAL         5.00
                  9150-00-261-7899     PENETRATING OIL              2394                 0     4     7 PT          5.00
                  9150-00-261-8317     FLUID, HYDRALIC              17111                0     3     6             0.00
                  9150-00-263-3490     OIL, LUBE                    0823                 0     2     3             0.00
                  9150-00-265-9417     LUBE OIL, GEAR               60860                2     3     5 GAL         0.00
                  9150-00-269-8255     GREASE, AIRCRAFT             4343-C               0     3     5             0.00
                  9150-00-271-8427     OIL, LUBE                    3150                 0     2     3             0.00
                  9150-00-292-9697     LUBE OIL, REFRIG             825A                 5     6    12 GL          4.00
                  9150-00-419-0628     GREASE, A/C RADAR  1         2995088              0     2     5             0.00
                  9150-00-448-5009     LUBE OIL, INSTRUMENT         7470                 0     3     7             0.00
                  9150-00-530-6814     GREASE, WIRE ROPE            18458                1     3     2            58.00
                  9150-00-543-7220     LUBE OIL, MOLY BEN           25681                3     5     7 CN          9.00
                  9150-00-598-2911     LUBE OIL, REFRIG RCO-2       825-A               28    40    48 QT          0.00
                  9150-00-663-1770     GREASE, GENERAL PURPOSE      630AA                0     3     5             0.00
                  9150-00-753-4799     HYDRALIC FLUID PETRO INHI    17672                0     2     8 GL         13.77
                  9150-00-823-7860     SILICONE LUBE COMPOUND       7237                 0     3     5 CN          0.00
              9G  9150-00-935-5851     AIRCRAFT GREASE              MIL-G-81322D         7    20    70 CN         75.00
                  9150-00-965-2003     GREASE, MOLY B               21164                0     3     5             0.00
                  9150-00-985-7237     FLUID, HYDRALIC              2075                 0     3     7             0.00
                  9150-00-985-7247     GREASE, AIRCRAFT             23827                0     3     5             0.00
                  9150-01-035-5392     LUBE OIL, GEAR               2105                19    20    36 QT          2.11
                  9150-01-035-5393     LUBE OIL, GEAR               GO 80/90             0     5     8  GAL       30.00
                  9150-01-053-6688     CLEANER/LUBE/PRESERVER       636400              19    20     0 GAL         0.00
              9G  9150-01-080-5961     HYDRAULIC FLUID CATAPULT     MIL-H-22072C         3     5    10 QT          4.00
                  9150-01-231-8732     LUBE, OIL                    77988                0     3     6 GL          0.00
                  9150-01-256-6433     HYDRALIC FLUID, CHERRY                            2     8    16 GAL         0.00
                  9150-01-318-6008     LUBE OIL, TWO CYCLE ENINE                         8    12    24 QT          3.32
                  9160-00-685-0913     INSULATE, OIL ELECTRIC       3487-82A             0     2     3             0.00
```

```
                                                                                                 Price   Qty
H  F  R  Part Number          Nat'l Stock Number  Nomenclature                   Military Spec.  Per I/S On Hand   V/P  U/I
=======  ===================  ==================  =============================  ==============  ======= =======   ====  ====
Location     C/A Qty    Low   High  Weight I/S    Volume I/S   VOC  Remarks
==========   =======    =====  =====  ==========  ==========   ====  ==========================================================

                              5350-00-193-1348    LAPPING CMPD & GRINDING                          0.00      1      0
6                  0      1      1    0.00          0.00        0
-----------------------------------------------------------------------------------------------------------------------------
                              5970-00-295-9298    INSULATING COMPOUND, ELECTRIC  3064B             0.00      1      0  CN
4                  0      1      2    0.00          0.00        0
-----------------------------------------------------------------------------------------------------------------------------
                              6505-00-753-4773    DEODORIZER                                       0.00      0      0
                   0      2      5    0.00          0.00        0
-----------------------------------------------------------------------------------------------------------------------------
                              6810-00-753-4783    METHANOL                                         0.00      0      0
                   0      0      0    0.00          0.00        0
-----------------------------------------------------------------------------------------------------------------------------
                              6830-LL-H23-7533    PROPANE, CYLINDERS                               0.00      4      0
                   0      5      8    0.00          0.00        0
-----------------------------------------------------------------------------------------------------------------------------
                              6850-00-066-2333    CORROSION PREVENTION CMPD      14098             0.00      0      0
                   0      1      1    0.00          0.00        0
-----------------------------------------------------------------------------------------------------------------------------
                              6850-00-181-7594    CLEANING, CMPD ENGINE          85704B            0.00      8      0  GAL
35                 0      5      9    0.00          0.00        0
-----------------------------------------------------------------------------------------------------------------------------
                              6850-00-333-3609    CLEANING COMPOUND, CONTACT                       0.00      1      0
                   0      1      3    0.00          0.00        0
-----------------------------------------------------------------------------------------------------------------------------
                              6850-00-621-1820    LEAK DETECTION COMPOUND        25567             0.00      7      0  BT
4                  0      1      8    0.00          0.00        0
-----------------------------------------------------------------------------------------------------------------------------
                              6850-00-927-9461    SILICONE COMPOUND              471138            0.00      1      0  TU
FF                 0      1      2    0.00          0.00        0
-----------------------------------------------------------------------------------------------------------------------------
                              8030-00-246-0932    SEALING COMPOUND, JOINT THREAD 15204D            0.00      2      0  CN
7                  1      1      1    0.00          0.00        0
-----------------------------------------------------------------------------------------------------------------------------
                              8030-00-811-3723    CORROSION RESISTANT CMPD                         0.00      1      0
5                  0      1      1    0.00          0.00        0
-----------------------------------------------------------------------------------------------------------------------------
                              8030-00-965-2004    SEALING COMPOUND               8802F             0.00      1      0
2                  0      1      3    0.00          0.00        0
-----------------------------------------------------------------------------------------------------------------------------
                              8030-01-103-2868    SEALING COMPOUND               5                 0.00      9      0  CN
5                  0      1      9    0.00          0.00        0
-----------------------------------------------------------------------------------------------------------------------------
                              8040-00-145-0153    ADHESIVE                       MIL-A-24179       9.00     44      0  PT
A                 44      0      0    2.00 LB       0.96 QT     0
-----------------------------------------------------------------------------------------------------------------------------
                              8040-01-023-4173    ADHESIVE, SCOTCHGRIP                             0.00      3      0
                   0      5      8    0.00          0.00        0
-----------------------------------------------------------------------------------------------------------------------------
```

```
                                                                                 Price    Qty
R  Part Number         Nat'l Stock Number  Nomenclature                Military Spec.  Per I/S  On Hand  V/P  U/I
:  ==================  ================    ==========================  =============  =======  =======  ===  =====
on     C/A Qty    Low  High  Weight I/S    Volume I/S  VOC  Remarks
====   =======  =====  =====  ==========    ==========  ====  ==================================================

                       9150-00-265-9417    LUBE OIL, GEAR              60860             0.00        2    0  GAL
            0      3     5    0.00           0.00        0
--------------------------------------------------------------------------------------------------------------
                       9150-00-419-0628    GREASE, A/C RADAR  1        2995088           0.00        0    0
            0      2     5    0.00           0.00        0
--------------------------------------------------------------------------------------------------------------
                       9150-00-754-2595    GREASE, MOLY B              21146D            0.00        1    0
            0      1     1    0.00           0.00        0
--------------------------------------------------------------------------------------------------------------
                       9150-01-256-6433    HYDRALIC FLUID, CHERRY                        0.00        2    0  GAL
            0      8    16    0.00           0.00        0
--------------------------------------------------------------------------------------------------------------
  0006                 6810-00-184-4796    ACETONE                                       0.00        3    0
            0      1     2    0.00           0.00        0
--------------------------------------------------------------------------------------------------------------
  0019                 8040-00-273-8707    ADHESIVE FIRE RESISTANT     MIL-A-3316        5.00       20    0  QT
            0      8    20    1.00 LB        0.48 QT     0
--------------------------------------------------------------------------------------------------------------
  0029                 8040-00-225-4548    RTV/WHT                     46106B            5.00       12    0  TU
            0      5    12    1.00           1.00        0
--------------------------------------------------------------------------------------------------------------
  0029                 8040-00-843-0802    RTV/RED                     46106B            0.00        0    0
            0      5     7    0.00           0.00        0
--------------------------------------------------------------------------------------------------------------
  0029                 8040-00-865-8991    RTV/BLK                     46106B            0.00        0    0
            0      5     7    0.00           0.00        0
--------------------------------------------------------------------------------------------------------------
  0030                 8040-00-144-9774    RTV/GRY                     46146             0.00        0    0
            0      5     7    0.00           0.00        0
--------------------------------------------------------------------------------------------------------------
  0030                 8040-00-145-0020    RTV/GRA                     46146             0.00        0    0
            0      5     7    0.00           0.00        0
--------------------------------------------------------------------------------------------------------------
  0033                 8040-00-262-9031    ADHESIVE RUBBER BASE GEN PURPO MMM-A-1617B    5.50        1    0  QT
            1      2     8    2.00 LB        0.96 QT     0
--------------------------------------------------------------------------------------------------------------
  0038                 6810-00-201-0907    ALCOHOL, DENATURED          0-E-760          22.00       30    0  CN
           10     15    30    2.00 LB        0.96 QT     0
--------------------------------------------------------------------------------------------------------------
  0038                 6810-00-543-7415    ALCOHOL, DENATURED          760               0.00        0    0  GAL
            0      5    10    0.00           0.00        0
--------------------------------------------------------------------------------------------------------------
  0041                 8030-01-163-3483    SEALING, COMPOUND                             0.00        0    0
            0      2     3    0.00           0.00        0
--------------------------------------------------------------------------------------------------------------
  0042                 8040-00-515-2246    ADHESIVE, POLYCHLORO        5540B             0.00        0    0
            0      2     3    0.00           0.00        0
--------------------------------------------------------------------------------------------------------------
```

```
                                                                                                   Price   Qty
H  F  R  Part Number          Nat'l Stock Number    Nomenclature                   Military Spec.  Per I/S On Hand   V/P  U/I
=======  ==================== ==================    ============================== ==============  ======= =======   ==== =====
Location     C/A Qty    Low    High  Weight I/S     Volume I/S   VOC  Remarks
==========   =======   =====  =====  ==========     ==========  ====  =========================================================

         0053                 6850-00-181-7933      ANTIFREEZE                     46153             30.00      11      0 GL
                   6        4      9   0.00             0.00        0
-------------------------------------------------------------------------------------------------------------------------------
         0054                 8030-00-087-8630      ANTISIEZE, MOLY B              83483              0.00       7      0
2                  0        3      9   0.00             0.00        0
-------------------------------------------------------------------------------------------------------------------------------
         0055                 8030-00-292-1102      ANTISIEZE, COMPOUND            22361              0.00       0      0
                   0        8     20   0.00             0.00        0
-------------------------------------------------------------------------------------------------------------------------------
         0058                 8030-01-044-5034      ANTISIEZE, COMPOUND            55448              0.00       0      0
                   0        3      5   0.00             0.00        0
-------------------------------------------------------------------------------------------------------------------------------
         0059                 8030-00-286-5453      ANTISIEZE, COMPOUND            907D/E             0.00       0      0
                   0        2      5   0.00             0.00        0
-------------------------------------------------------------------------------------------------------------------------------
         0062                 8030-01-275-5050      ANTISEIZE DOW                                     0.00       0      0
                   0        4      8   0.00             0.00        0
-------------------------------------------------------------------------------------------------------------------------------
         0080                 9150-01-318-6008      LUBE OIL, TWO CYCLE ENINE                         3.32      33      0 QT
                   0       12     24   1.00             1.00        0
-------------------------------------------------------------------------------------------------------------------------------
         0106                 6810-00-297-9540      WATER, BATTERY                 841                0.00       0      0
                   0        0      0   0.00             0.00        0
-------------------------------------------------------------------------------------------------------------------------------
         0256                 6810-00-281-2014      CITRIC ACID MONO               2658               0.00       0      0
                   0        3      5   0.00             0.00        0
-------------------------------------------------------------------------------------------------------------------------------
         0280                 6850-00-392-9751      CLEANING COMPOUND              43454              0.00       0      0
                   0        1      1   0.00             0.00        0
-------------------------------------------------------------------------------------------------------------------------------
         0282                 6850-00-224-6657      RIFLE CLEANING COMPOUND        372                0.00       0      0
                   0        5     10   0.00             0.00        0
-------------------------------------------------------------------------------------------------------------------------------
         0284                 6850-00-965-2359      CLEANING COMPOUND              22230              0.00       0      0
                   0        1      1   0.00             0.00        0
-------------------------------------------------------------------------------------------------------------------------------
         0312                 8030-00-272-5830      CORROSION PREVENTION           18487              3.00       1      0 GL
                   0        2      4   1.00 1           1.00        0
-------------------------------------------------------------------------------------------------------------------------------
         0312                 8030-00-272-8530      CORROSION PREVENTION CMPD      18487              0.00       0      0
                   0        2      4   0.00             0.00        0
-------------------------------------------------------------------------------------------------------------------------------
         0318                 8030-00-244-1297      CORROSION PREVENTION COMP SOL  MIL-C-16173D       3.10       8      0 GL
A                  0        4      8   1.00 LB          0.48 QT     0
-------------------------------------------------------------------------------------------------------------------------------
         0322                 8030-00-938-1947      CORROSION PREV. COMP SPRAY     MIL-C-81309        5.00     120      0 CN
A                 25       30    130   1.00 LB          0.48 QT     0
-------------------------------------------------------------------------------------------------------------------------------
```

```
-1                 H A Z A R D O U S   I N V E N T O R Y   C O N T R O L   S Y S T E M                  Page:    4
)5                              Master List - Part Number Sequence , All Items

                                                                                        Price   Qty
: Part Number          Nat'l Stock Number  Nomenclature                   Military Spec. Per I/S On Hand   V/P  U/I
  ==================== ==================  ============================== ============== ======== =======  ====  =====
n    C/A Qty     Low   High  Weight I/S    Volume I/S   VOC  Remarks
===  =======   =====  =====  ==========    ==========  ====  ==================================================================

 0331                  8030-00-823-8039    CORROSION, RESISTANT           81706              0.00       3     0
           0       1     3     0.00          0.00        0
------------------------------------------------------------------------------------------------------------------------------
 0349                  9150-00-252-6380    FLUID, CUTTING                 VVC846            25.06       5     0  CN
           5.      1     5     0.00          0.00        0
------------------------------------------------------------------------------------------------------------------------------
 0349                  9150-00-265-9405    FLUID, CUTTING                 VVC846            12.58       5     0  GL
           5       1     5     0.00          0.00        0
------------------------------------------------------------------------------------------------------------------------------
 0367                  6505-00-994-7224    T-SCRUB IODINE                                    0.00       0     0
           0       4     6     0.00          0.00        0
------------------------------------------------------------------------------------------------------------------------------
 0516                  7930-00-664-6910    GLASS CLEANER                  40A TY1            0.00       1     0
           0       0     1     0.00          0.00        0
------------------------------------------------------------------------------------------------------------------------------
 0542                  9150-00-145-0268    GREASE, AIRCRAFT               81322              0.00       0     0
           0       3     6     0.00          0.00        0
------------------------------------------------------------------------------------------------------------------------------
 0542                  9150-00-935-5851    AIRCRAFT GREASE                MIL-G-81322D       0.00       2     0  GL
          40      20    70     0.00 LB       0.00 QT     0
------------------------------------------------------------------------------------------------------------------------------
 0546                  9150-00-269-8255    GREASE, AIRCRAFT               4343-C             0.00       0     0
           0       3     5     0.00          0.00        0
------------------------------------------------------------------------------------------------------------------------------
 0549                  9150-00-985-7247    GREASE, AIRCRAFT               23827              0.00       0     0
           0       3     5     0.00          0.00        0
------------------------------------------------------------------------------------------------------------------------------
 0556                  9150-00-141-6770    GREASE, BEARING AND ROLLER     25013              0.00       0     0
           0       2     5     0.00          0.00        0
------------------------------------------------------------------------------------------------------------------------------
 0563                  9150-00-180-6381    GREASE, GENERAL PURPOSE        24139              4.87       3     0  QT
           5       3     8     0.00          0.00        0
------------------------------------------------------------------------------------------------------------------------------
 0565                  9150-00-235-5555    GREASE, GENERAL PURPOSE        23549              0.00       5     0  GL
           0       3     6     0.00          0.00        0
------------------------------------------------------------------------------------------------------------------------------
 0575                  9150-00-965-2003    GREASE, MOLY B                 21164              0.00       0     0
           0       3     5     0.00          0.00        0
------------------------------------------------------------------------------------------------------------------------------
 0585                  9150-00-530-6814    GREASE, WIRE ROPE              18458              5.00       1     0
           0       3     2     0.00          0.00        0
------------------------------------------------------------------------------------------------------------------------------
 0661                  9150-00-223-4134    FLUID, HYDRALIC                5606 RED           0.00       0     0
           0       2     4     0.00          0.00        0
------------------------------------------------------------------------------------------------------------------------------
 0670                  9150-00-261-8317    FLUID, HYDRALIC                17111              0.00       0     0
           0       3     6     0.00          0.00        0
------------------------------------------------------------------------------------------------------------------------------
```

```
                                                                                       Price    Qty
H  F  R  Part Number          Nat'l Stock Number  Nomenclature                    Military Spec.  Per I/S  On Hand  V/P  U/I
=======  ===================  ==================  ==============================  ==============  ======== =======  ==== ====
Location    C/A Qty    Low   High  Weight I/S     Volume I/S   VOC  Remarks
==========  =======   =====  ===== ==========     ==========   ==== ==========================================================

         0691                 9160-00-685-0913    INSULATE, OIL ELECTRIC          3487-82A            0.00        0    0
                  0       2      3   0.00           0.00        0
-------------------------------------------------------------------------------------------------------------------------------
         0697                 6850-01-277-0595    COMPOUND, CLEANING              134 HI-SOLV         0.00        5    0  GAL
34 35             0       4      6   0.00           0.00        0
-------------------------------------------------------------------------------------------------------------------------------
         0698                 6505-55-261-7256    ALCOHOL, ISOPROYL               37443               0.00        0    0
                  0       2      4   0.00           0.00        0
-------------------------------------------------------------------------------------------------------------------------------
         0701                 6810-00-753-4993    ALCOHOL, ISOPROPYL              735                 1.83       10    0  CN
                 10       4     15   0.00           0.00        0
-------------------------------------------------------------------------------------------------------------------------------
         0779                 9150-00-753-4799    HYDRALIC FLUID PETRO INHIB      17672               0.00        0    0  GL
                  6       2      8   0.00           0.00        0
-------------------------------------------------------------------------------------------------------------------------------
         0781                 9150-00-985-7099    LUBE OIL, AIRCRAFT TURBOSHAFT   23699               3.60      708    0  QT
                  0      44    300   0.00           0.00        0
-------------------------------------------------------------------------------------------------------------------------------
         0801                 9150-00-223-4116    OIL, LUBE GEAR                  6086                0.00        0    0
                  0       3      5   0.00           0.00        0
-------------------------------------------------------------------------------------------------------------------------------
         0808                 9150-00-240-2235    LUBE OIL. GEAR                  6086                0.00        1    0  PT
32                0       2      4   0.00           0.00        0
-------------------------------------------------------------------------------------------------------------------------------
         0817                 9150-00-231-9045    OIL, LUBE                       820                 0.00        0    0
                  0       2      3   0.00           0.00        0
-------------------------------------------------------------------------------------------------------------------------------
         0819                 9150-00-263-3490    OIL, LUBE                       0823                0.00        0    0
                  0       2      3   0.00           0.00        0
-------------------------------------------------------------------------------------------------------------------------------
         0823                 9150-00-271-8427    OIL, LUBE                       3150                0.00        0    0
                  0       2      3   0.00           0.00        0
-------------------------------------------------------------------------------------------------------------------------------
         0824                 9150-00-985-7231    HYDRALIC FLUID                  17672D 2075         0.00        2    0  QT
32                0       2      5   0.00           0.00        0
-------------------------------------------------------------------------------------------------------------------------------
         0824                 9150-00-985-7232    HYDRALIC FLUID                  MIL-H-17672D       19.25       20    0  CN
8                10      10     20   5.00 LB        2.40 QT     0
-------------------------------------------------------------------------------------------------------------------------------
         0828                 9150-00-985-7234    FLUID, HYDRALIC                 2110                0.00        6    0  GAL
33                0       4     10   0.00           0.00        0
-------------------------------------------------------------------------------------------------------------------------------
         0828                 9150-00-985-7237    FLUID, HYDRALIC                 2075                0.00        0    0
                  0       3      7   0.00           0.00        0
-------------------------------------------------------------------------------------------------------------------------------
         0831                 9150-00-231-6689    LUBE OIL                        800C                3.00        1    0  QT
32                0       3      5   1.00           1.00        0
-------------------------------------------------------------------------------------------------------------------------------
```

```
                                                                         Price    Qty
R  Part Number        Nat'l Stock Number  Nomenclature                   Military Spec.  Per I/S  On Hand   V/P  U/I
:  ================== ================== ============================== ============== ======== =======   ====  =====
on     C/A Qty    Low   High  Weight I/S  Volume I/S  VOC  Remarks
====   =======   =====  ===== ==========  ==========  ==== ==================================================================

  0839                9150-00-223-4129    LUBE OIL, INSTRUMENT           6085              3.00      10     0  QT
             0      4     8     1.00         1.00       0
----------------------------------------------------------------------------------------------------------------------------
  0841                9150-00-543-7220    LUBE OIL, MOLY BEN             25681             9.00       3     0  CN
             0      5     7     1.00         1.00       0
----------------------------------------------------------------------------------------------------------------------------
  0848                9150-00-235-9061    LUBE OIL, STEAM TURBINE        17331             6.00      42     0  GAL
             0      3     6     0.00         0.00       0
----------------------------------------------------------------------------------------------------------------------------
  0887                6810-00-597-3608    METHANOL                       O-M-232G          0.00       0     0  GL
             0      4     8     0.00         0.00       0
----------------------------------------------------------------------------------------------------------------------------
  0905                6810-00-238-8119    NAPHTHA AROMATIC                                 0.00       1     0  GAL
             0      1     2     0.00         0.00       0
----------------------------------------------------------------------------------------------------------------------------
  0979                6850-00-973-9091    PENETRATING FLUID              216               3.00       0     0  CN
             0      4     7     1.00 1       1.00       0
----------------------------------------------------------------------------------------------------------------------------
  0980                9150-00-261-7899    PENETRATING OIL                2394              5.00       0     0  PT
             0      4     7     1.00 1       1.00 1     0
----------------------------------------------------------------------------------------------------------------------------
  0982                9150-00-250-0933    PETROLATUM TECH                236A              1.75       0     0  GAL
             0      4     7     1.00         1.00       0
----------------------------------------------------------------------------------------------------------------------------
  1012                9150-00-448-5009    LUBE OIL, INSTRUMENT           7470              0.00       0     0
             0      3     7     0.00         0.00       0
----------------------------------------------------------------------------------------------------------------------------
  1106                9150-01-231-8732    LUBE, OIL                      77988             0.00       0     0  GL
             0      3     6     0.00         0.00       0
----------------------------------------------------------------------------------------------------------------------------
  1227                8030-00-209-8005    SEALING COMPOUND               S1732             3.00       0     0  PT
             0      5    10     1.00 1       1.00       0
----------------------------------------------------------------------------------------------------------------------------
  1232                8030-00-252-3391    SEALING COMPOUND               45180             4.00       0     0  TU
             0      6     9     1.00         1.00       0
----------------------------------------------------------------------------------------------------------------------------
  1234                8030-00-656-1426    SEALING COMPOUND               45180 TY3         5.00       2     0  PT
             0      2     2     1.00         1.00       0
----------------------------------------------------------------------------------------------------------------------------
  1254                6850-00-963-5402    SILICONE COMPOUND              21567             4.00       0     0  TU
             0      6     9     1.00         1.00       0
----------------------------------------------------------------------------------------------------------------------------
  1255                6850-00-664-4959    SILICONE COMPOUND              21567             3.50       0     0  GAL
             0      4     5     1.00 1       1.00       0
----------------------------------------------------------------------------------------------------------------------------
  1257                6850-00-975-0712    SILICONE COMPOUND              DC-7              4.00       4     0  TU
             0      4     7     1.00         1.00       0
----------------------------------------------------------------------------------------------------------------------------
```

```
                                                                                   Price   Qty
H F R  Part Number        Nat'l Stock Number  Nomenclature              Military Spec. Per I/S On Hand  V/P U/I
======= ================= ==================  ========================= ============== ======= =======  ==== =====
Location    C/A Qty    Low  High  Weight I/S  Volume I/S  VOC  Remarks
==========  =======  =====  ===== ==========  ==========  ==== ==================================================

       1258               6850-00-702-4297  SILICONE COMPOUND         21567              4.00       0    0  TU
                0      4     9   1.00          1.00      0
-----------------------------------------------------------------------------------------------------------------
       1259               6850-00-880-7616  SILICONE COMPOUND         8660 DC-6          4.00      10    0  TU
                0      4     9   1.00          1.00      0
-----------------------------------------------------------------------------------------------------------------
       1280               9150-00-292-9689  WEAPON OIL ARCTIC         MIL-L-14107C       2.00      12    0  QT
                4      4    12   0.00          0.00      0
-----------------------------------------------------------------------------------------------------------------
       1297               6810-00-264-6618  SODIUM BICARBONATE        576                0.00       2    0  LB
                0      3     5   0.00          0.00      0
-----------------------------------------------------------------------------------------------------------------
       1348               8510-00-817-0295  TALCUM POWDER                                1.25       1    0  CUP
                0      0     0   0.00          0.00      0
-----------------------------------------------------------------------------------------------------------------
       1550               9150-00-961-8995  GREASE, PLUG VAVLE        27617              0.00       4    0  TU
                0      4     9   0.00          0.00      0
-----------------------------------------------------------------------------------------------------------------
       1561               8030-01-041-1609  PLASTISOL COMPOUND        20689-D            0.00       7    0
2               0      2     7   0.00          0.00      0
-----------------------------------------------------------------------------------------------------------------
       1580               6850-00-005-5305  AIRCRAFT CLEANING COMP AEROSOL MIL-C-43616C  4.00      48    0  DZ
C              24     24    48   1.00 LB       0.48 QT   0
-----------------------------------------------------------------------------------------------------------------
       1580               6850-01-045-7929  CLEAN, AIRCRAFT COMPOUND  43616             32.00       2    0  GAL
                0      5     8   1.00 1        1.00      0
-----------------------------------------------------------------------------------------------------------------
       1589               8030-12-041-1596  CORROSION, PREVENT COMPOUND 85054 TY2        0.00       2    0  QT
5               0      0     0   0.00          0.00      0
-----------------------------------------------------------------------------------------------------------------
       1590               8030-00-081-2338  SEALANT                   22473-E            0.00       0    0  TU
                0      0     0   0.00          0.00      0
-----------------------------------------------------------------------------------------------------------------
       1591               8030-00-081-9022  SEALING COMPOUND          22473-B            0.00       4    0
6               0      4     4   0.00          0.00      0
-----------------------------------------------------------------------------------------------------------------
       1596               9150-01-117-2928  GREASE ROLLER BEARING     DOD-G-24508A      19.00       5    0  CN
HH              6      2     6   4.00 LB       1.92 QT   0
-----------------------------------------------------------------------------------------------------------------
       1598               9150-01-035-5392  LUBE OIL, GEAR            2105               2.11      20    0  QT
32             10     20    36   0.00          0.00      0
-----------------------------------------------------------------------------------------------------------------
       1598               9150-01-035-5393  LUBE OIL, GEAR            GO 80/90           6.00       7    0  GAL
                0      5     8   0.00          0.00      0
-----------------------------------------------------------------------------------------------------------------
       1620               5970-00-962-3335  SCOTCH KOTE                                  4.00       3    0  CN
                0      5     9   0.00          0.00      0
-----------------------------------------------------------------------------------------------------------------
```

```
C-1                   H A Z A R D O U S   I N V E N T O R Y   C O N T R O L   S Y S T E M                 Page:   8
?95                              Master List - Part Number Sequence , All Items

                                                                                       Price   Qty
R  Part Number          Nat'l Stock Number   Nomenclature                 Military Spec.  Per I/S On Hand   V/P  U/I
:  ==================== ==================   ============================ ==============  ======= =======   ====  =====
ion      C/A Qty    Low   High  Weight I/S   Volume I/S   VOC  Remarks
=====    =======   =====  ===== ==========   ==========  ====  ====================================================

   1749                 9150-00-823-7860     SILICONE LUBE COMPOUND       7237              0.00      0      0  CN
              0       3     5     0.00          0.00        0
---------------------------------------------------------------------------------------------------------------------
   1761                 6850-00-405-9385     FREEZING COMPOUND                              0.00      0      0
              0       3     5     0.00          0.00        0
---------------------------------------------------------------------------------------------------------------------
   1816                 6850-00-368-5233     CORROSION INHIBIT            22110             0.00      0      0
              0       0     0     0.00          0.00        0
---------------------------------------------------------------------------------------------------------------------
   1877                 9150-00-283-0662     GRAPHITE/COLLOIDIAL          24131             0.00      3      0
              0       1     3     0.00          0.00        0
---------------------------------------------------------------------------------------------------------------------
   2057                 9150-01-053-6688     CLEANER/LUBE/PRESERVER       636400            0.00     19      0  GAL
             10      20     0     0.00          0.00        0
---------------------------------------------------------------------------------------------------------------------
   2266                 9150-00-663-1770     GREASE, GENERAL PURPOSE      630AA             0.00      0      0
              0       3     5     0.00          0.00        0
---------------------------------------------------------------------------------------------------------------------
   2283                 6850-00-110-4498     DRY CLEANING SOLVENT TYPE II PD680             1.50      0      0  PT
              0       5    10     2.00 LB       0.96 QT     0
---------------------------------------------------------------------------------------------------------------------
   2283                 6850-00-274-5421     DRY CLEAN SOLVENT            PD 680            0.00      2      0
              0       0     0     0.00          0.00        0
---------------------------------------------------------------------------------------------------------------------
   2294                 8040-00-664-4318     RUBBER CEMENT                1617-A            0.00      0      0  PT
              0       1     2     0.00          0.00        0
---------------------------------------------------------------------------------------------------------------------
   2327                 3439-00-069-5815     FLUX SOLDERING               95263             0.00      0      0  QT
              0       0     0     0.00          0.00        0
---------------------------------------------------------------------------------------------------------------------
   2327                 5970-00-233-6239     INSULATE ELECTRIC COMPOUND   3064B             0.00      0      0
              0       4     7     0.00          0.00        0
---------------------------------------------------------------------------------------------------------------------
   2367                 9150-01-080-5961     HYDRAULIC FLUID CATAPULT     MIL-H-22072C      4.00      3      0  QT
              0       5    10     2.00 LB       0.96 QT     0
---------------------------------------------------------------------------------------------------------------------
   2402                 6810-00-006-4205     ETHYLENE GLYCOL TECHNICAL    MIL-E-9500B       6.50     39      0  GL
             39      10    20     8.33 LB       4.32 QT     0
---------------------------------------------------------------------------------------------------------------------
   2416                 6505-00-133-6000     MINERAL OIL                                    0.00      1      0
              0       1     3     0.00          0.00        0
---------------------------------------------------------------------------------------------------------------------
   2436                 6850-00-224-6665     CLEANING COMPOUND, SOLV      11090             0.00      0      0  GAL
              0       0     0     0.00          0.00        0
---------------------------------------------------------------------------------------------------------------------
   2466                 6850-00-935-1082     CLEANING COMPOUND, SOLV      81302C            0.00      0      0  OZ
              0       0     0     0.00          0.00        0
---------------------------------------------------------------------------------------------------------------------
```

```
                                                                                              Price     Qty
H  F  R  Part Number          Nat'l Stock Number  Nomenclature                    Military Spec.  Per I/S  On Hand  V/P  U/I
=======  ===================  ==================  ==============================  ==============  =======  =======  ====  =====
Location     C/A Qty    Low   High  Weight I/S    Volume I/S  VOC   Remarks
==========   =======  =====  =====  ==========    ==========  ====  ==================================================

         2598                 8030-00-145-0111    CORROSION PREVENT COMPOUND      21067              0.00        0     0
                   0        0     0      0.00           0.00      0
------------------------------------------------------------------------------------------------------------------------
         2635                 6810-00-584-4070    XYLENE TECHINCAL                84680              0.00        0     0  GAL
                   0        0     0      0.00           0.00      0
------------------------------------------------------------------------------------------------------------------------
         2637                 5970-00-161-7422    INSULATE, VARNISH ELECTRICAL                       0.00        0     0  GAL
                   0        0     0      0.00           0.00      0
------------------------------------------------------------------------------------------------------------------------
         2670                 6810-00-476-5612    TRICHLOROETYHANE                81533              0.00        0     0
                   0        0     0      0.00           0.00      0
------------------------------------------------------------------------------------------------------------------------
         2672                 1020-00-491-8672    FLUID, RECOIL                   18694 TYPE A       0.00        0     0  GAL
                   0        0     0      0.00           0.00      0
------------------------------------------------------------------------------------------------------------------------
         2672                 9150-00-349-9290    LUBE FLUOROCARBON               60326              0.00        0     0
                   0        0     0      0.00           0.00      0
------------------------------------------------------------------------------------------------------------------------
         2846                 9150-00-935-4127    LUBE OIL, EXPOSED GEAR          27843              0.00        0     0
                   0        0     0      0.00           0.00      0
------------------------------------------------------------------------------------------------------------------------
         2847                 9150-00-149-7432    HYDRAULIC FLUID                 83282              0.00        0     0
                   0        0     0      0.00           0.00      0
------------------------------------------------------------------------------------------------------------------------
         3019                 9150-00-292-9657    LUBE OIL, TEXACO                RCO-68             0.00        0     0
                   0        0     0      0.00           0.00      0
------------------------------------------------------------------------------------------------------------------------
         3019                 9150-00-292-9697    LUBE OIL, REFRIG                825A               4.00        5     0  GL
31                 0        6    12      0.00           0.00      0
------------------------------------------------------------------------------------------------------------------------
         3019                 9150-00-598-2911    LUBE OIL, REFRIG RCO-2          825-A              0.00       28     0  QT
31                 0       40    48      0.00           0.00      0
------------------------------------------------------------------------------------------------------------------------
         3068                 8040-00-142-9823    ADHESIVE, SEALANT               46106              3.88       12     0  TU
                  12        5    18      0.00           0.00      0
------------------------------------------------------------------------------------------------------------------------
         3178                 6850-00-003-5295    CLEAN/LUBE CMPD                 83360              0.00        9     0
6                  0        2     6      0.00           0.00      0
------------------------------------------------------------------------------------------------------------------------
         3228                 9150-01-154-3753    LUBE OIL, MOL                   324606             0.00        2     0  GAL
32                 0        1     3      0.00           0.00      0
------------------------------------------------------------------------------------------------------------------------
         3533                 6810-00-687-8429    METHYL KEYTONE TECH             740-84             0.00        0     0
                   0        3     6      0.00           0.00      0
------------------------------------------------------------------------------------------------------------------------
         3570                 7930-01-323-2005    WAX AIRCRAFT                    1600               0.00        0     0
                   0        3     6      0.00           0.00      0
------------------------------------------------------------------------------------------------------------------------
```

```
                                                                                       Price   Qty
t Number          Nat'l Stock Number    Nomenclature                   Military Spec.  Per I/S On Hand   V/P  U/I
================= ==================    ============================== ============== ======== =======   ==== =====
 C/A Qty     Low   High  Weight I/S     Volume I/S  VOC  Remarks
 =======   =====  =====  ==========     ==========  ====  =========================================================

0                 9150-01-237-7980      LUBE OIL, FOOD                 24651              0.00       0     0
       0       0      0     0.00          0.00        0
-------------------------------------------------------------------------------------------------------------------
1                 9150-01-237-7467      CLEANER, OPTIC LENS            5606               0.00       0     0
       0       0      0     0.00          0.00        0
-------------------------------------------------------------------------------------------------------------------
8                 6850-00-188-9875      CLEANER, OPTIC LENS            43454              0.00       0     0  BT
       0       3      6     0.00          0.00        0
-------------------------------------------------------------------------------------------------------------------
4                 6810-00-241-1203      CUPRIC SULATE                  265                0.00       0     0  LB
       0       2      5     0.00          0.00        0
-------------------------------------------------------------------------------------------------------------------
7                 6850-00-148-7161      AVIONICS CLEANER                                  0.00       0     0  CN
       0       4      8     0.00          0.00        0
-------------------------------------------------------------------------------------------------------------------
```

DOC IDENT | RI FROM | M & S | STOCK NUMBER: FSC | NIIN | ADD | UNIT OF ISSUE | QUANTITY | DOCUMENT NUMBER: SERV | REQUISITIONER | DATE | SERIAL | SUFFIX | SERV | SUPPLEMENTARY ADDRESS | SIGNAL | FUND | DISTRIBUTION | PROJECT | PRIORITY | REQ'D DEL DATE | ADVICE | RI

GL0004 V 20600 5171 7003

SHIPPED FROM: A

SHIP TO: B

MARK FOR: C

PROJECT: D

E

WAREHOUSE LOCATION: F | TYPE OF CARGO: G | UNIT PACK: H | UNIT WEIGHT: I | UNIT CUBE: J | U F C: K | N M F C: L | FREIGHT RATE: M | N | DOCUMENT DATE: O | MAT COND: P | QUANTITY: Q | R | S

SUBSTITUTE DATA (ITEM ORIGINALLY REQUESTED): T

FREIGHT CLASSIFICATION NOMENCLATURE: U | V

W

ITEM NOMENCLATURE: X COLORFLAKE GROUT Comp. E | Y

SHIPPERS USE
1 SELECTED BY AND DATE
2 TYPE OF CONTAINER(S)
3 TOTAL WEIGHT
4 PACKED BY AND DATE
5 NO. OF CONTAINERS
6 TOTAL CUBE

RECEIVERS USE
7 RECEIVED BY AND DATE: KEE 6-20-98
8 INSPECTED BY AND DATE
9 WAREHOUSED BY AND DATE
10 WAREHOUSE LOCATION

REMARKS
AA | BB | CC
DD Russell Owens OS1SN | EE
For
FF J.J. ANDERSON LT. SC USN

11 FIRST DESTINATION ADDRESS
12 DATE SHIPPED
13 TRANSPORTATION CHARGEABLE TO
14 B/LADING, AWB, OR RECEIVER'S SIGNATURE (AND DATE)
15 RECEIVER'S DOCUMENT NUMBER

DD Form 1348-1, JUL 91
S/N 0102-LF-013-7500

PREVIOUS EDITION MAY BE USED

DOD SINGLE LINE ITEM RELEASE/RECEIPT

---

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74

DOC IDENT | RI FROM | M & S | STOCK NUMBER: FSC | NIIN | ADD | UNIT OF ISSUE | QUANTITY | DOCUMENT NUMBER: SERV | REQUISITIONER | DATE | SERIAL | SUFFIX | SERV | SUPPLEMENTARY ADDRESS | SIGNAL | FUND | DISTRIBUTION | PROJECT | PRIORITY | REQ'D DEL DATE | ADVICE | RI

8010 011046521 GL0002 V20600 5171 7004

SHIPPED FROM: A
USS COMTE DE GRASSE
DD-974

SHIP TO: B

MARK FOR: C

PROJECT: D

E

WAREHOUSE LOCATION: F | TYPE OF CARGO: G | UNIT PACK: H | UNIT WEIGHT: I | UNIT CUBE: J | U F C: K | N M F C: L | FREIGHT RATE: M | N | DOCUMENT DATE: O | MAT COND: P | QUANTITY: Q | R | S

SUBSTITUTE DATA (ITEM ORIGINALLY REQUESTED): T

FREIGHT CLASSIFICATION NOMENCLATURE: U | V

W

ITEM NOMENCLATURE: X POLYURETHANE, ALIPHATIC | Y

SHIPPERS USE
1 SELECTED BY AND DATE
2 TYPE OF CONTAINER(S)
3 TOTAL WEIGHT
4 PACKED BY AND DATE
5 NO. OF CONTAINERS
6 TOTAL CUBE

RECEIVERS USE
7 RECEIVED BY AND DATE: KEE 6-20-95
8 INSPECTED BY AND DATE
9 WAREHOUSED BY AND DATE
10 WAREHOUSE LOCATION

REMARKS
AA | BB | CC
DD Russell Owens OS1SN | EE
FF J.J. ANDERSON LT. SC USN

11 FIRST DESTINATION ADDRESS
12 DATE SHIPPED
13 TRANSPORTATION CHARGEABLE TO
14 B/LADING, AWB, OR RECEIVER'S SIGNATURE (AND DATE)
15 RECEIVER'S DOCUMENT NUMBER

DD Form 1348-1, JUL 91
S/N 0102-LF-013-7500

PREVIOUS EDITION MAY BE USED

DOD SINGLE LINE ITEM RELEASE/RECEIPT

FROM | M & S | FSC | NIIN | ADD | UNIT OF ISSUE | SERV | REQUISITIONER | DATE | SERIAL | SUFFI | SERV | ADDRESS | SIGNA | BUTION | ECT | PRI ORIT | DEL DATE | ADV

8010 013540961 PT 0001 V20600 5171 7001

ROM
COMTE DE GRASSE
774

SHIP TO B

MARK FOR C

PROJECT D

TOTAL PR DOLLARS E

SE LOCATION | TYPE OF CARGO G | UNIT PACK H | UNIT WEIGHT I | UNIT CUBE J | U F C K | N M F C L | FREIGHT RATE M | N | DOCUMENT DATE O | MAT COND P | QUANTITY Q | R | S

E DATA (ITEM ORIGINALLY REQUESTED)

FREIGHT CLASSIFICATION NOMENCLATURE U | V

ITEM NOMENCLATURE X POLYURETHANE COATING | Y

ECTED BY AND DATE

TYPE OF CONTAINER(S) 2

TOTAL WEIGHT 3

RECEIVERS USE

RECEIVED BY AND DATE 7 9KEE 6-20-95

INSPECTED BY AND DATE 8

KED BY AND DATE

NO. OF CONTAINERS 5

TOTAL CUBE 6

WAREHOUSED BY AND DATE 9

WAREHOUSE LOCATION 10

BB

CC

DD Ronald Owen

EE DSK(SW)
For

FF J.J. ANDERSON

GG LT. SC USN

STINATION ADDRESS

DATE SHIPPED 12

PORTATION CHARGEABLE TO

14 B/LADING, AWB, OR RECEIVER'S SIGNATURE (AND DATE)

15 RECEIVER'S DOCUMENT NUMBER

1348-1, JUL 91
LF-013-7500

PREVIOUS EDITION MAY BE USED

DOD SINGLE LINE ITEM RELEASE/RECEIPT DO

---

6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78

M & S | STOCK NUMBER: FSC | NIIN | ADD | UNIT OF ISSUE | QUANTITY | DOCUMENT NUMBER: SERV | REQUISITIONER | DATE | SERIAL | SUFFIX | SERV | SUPPLEMENTARY ADDRESS | SIGNAL | FUND | DISTRIBUTION | PROJECT | PRIORITY | REQ'D DEL DATE | ADVICE | RI | UNIT PRICE DOLLARS

8030001644389 Q 0004 V20600 5171 7022

COMTE DEGRASSE
774

SHIP TO B

MARK FOR C

PROJECT D

TOTAL PRICE DOLLARS E

CATION | TYPE OF CARGO G | UNIT PACK H | UNIT WEIGHT I | UNIT CUBE J | U F C K | N M F C L | FREIGHT RATE M | N | DOCUMENT DATE O | MAT COND P | QUANTITY Q | R | S

TA (ITEM ORIGINALLY REQUESTED)

FREIGHT CLASSIFICATION NOMENCLATURE U | V

ITEM NOMENCLATURE X COATING EPOXY GRAY | Y

BY AND DATE

TYPE OF CONTAINER(S) 2

TOTAL WEIGHT 3

RECEIVERS USE

RECEIVED BY AND DATE 7 9KEE 6-20-95

INSPECTED BY AND DATE 8

Y AND DATE

NO. OF CONTAINERS 5

TOTAL CUBE 6

WAREHOUSED BY AND DATE 9

WAREHOUSE LOCATION 10

BB

CC

DD Ronald Owen

EE DSKS
For

FF J.J. ANDERSON

GG LT. SC USN

ION ADDRESS

DATE SHIPPED 12

ATION CHARGEABLE TO

14 B/LADING, AWB, OR RECEIVER'S SIGNATURE (AND DATE)

15 RECEIVER'S DOCUMENT NUMBER

-1, JUL 91
13-7500

PREVIOUS EDITION MAY BE USED

DOD SINGLE LINE ITEM RELEASE/RECEIPT DOCUM

IDENT | FROM | M & S | FSC | NIIN | ADD | UNIT OF ISSUE | SERV | REQUISITIONER | DATE | SERIAL | SUFFIX | SERV | ADDRESS | SIGNAL | DISTRIBUTION | PROJECT | PRIORITY | REQ'D DEL DATE | ADVICE

5970002336239 GL0001 V206005171 7008

SHIPPED FROM
USS COMTE DEGRASSE
DD-974

A

SHIP TO

B

MARK FOR

C

PROJECT

D

TOTAL DOLLARS

E

WAREHOUSE LOCATION F | TYPE OF CARGO G | UNIT PACK H | UNIT WEIGHT I | UNIT CUBE J | U F C K | N M F C L | FREIGHT RATE M | N | DOCUMENT DATE O | MAT COND P | QUANTITY Q | R | S

SUBSTITUTE DATA (ITEM ORIGINALLY REQUESTED)

T

FREIGHT CLASSIFICATION NOMENCLATURE

U

V

W

ITEM NOMENCLATURE

X ELECTRICAL COATING

Y

SHIPPERS USE

SELECTED BY AND DATE 1

TYPE OF CONTAINER(S) 2

TOTAL WEIGHT 3

PACKED BY AND DATE 4

NO. OF CONTAINERS 5

TOTAL CUBE 6

RECEIVERS USE

RECEIVED BY AND DATE
7 KEE 6-20-98

INSPECTED BY AND DATE 8

WAREHOUSED BY AND DATE 9

WAREHOUSE LOCATION 10

REMARKS

AA

BB

CC

DD Ralph Owen

EE CS(SW)

FOR

FF J.J. ANDERSON LT. SC

GG USN

FIRST DESTINATION ADDRESS

11

DATE SHIPPED

12

13 TRANSPORTATION CHARGEABLE TO

14 B/LADING, AWB, OR RECEIVER'S SIGNATURE (AND DATE)

15 RECEIVER'S DOCUMENT NUMBER

DD Form 1348-1, JUL 91
S/N 0102-LF-013-7500

PREVIOUS EDITION MAY BE USED

DOD SINGLE LINE ITEM RELEASE/RECEIPT

---

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75

DOC IDENT | RI FROM | M & S | STOCK NUMBER: FSC | NIIN | ADD | UNIT OF ISSUE | QUANTITY | DOCUMENT NUMBER: SERV | REQUISITIONER | DATE | SERIAL | SUFFIX | SERV | SUPPLEMENTARY ADDRESS | SIGNAL | FUND | DISTRIBUTION | PROJECT | PRIORITY | REQ'D DEL DATE | ADVICE | RI | UNIT DOLLARS

8010013146066 PT0002 V206065171 7007

SHIPPED FROM
USS COMTE DE GRASSE
DD-974

A

SHIP TO

B

MARK FOR

C

PROJECT

D

TOTAL DOLLARS

E

WAREHOUSE LOCATION F | TYPE OF CARGO G | UNIT PACK H | UNIT WEIGHT I | UNIT CUBE J | U F C K | N M F C L | FREIGHT RATE M | N | DOCUMENT DATE O | MAT COND P | QUANTITY Q | R | S

SUBSTITUTE DATA (ITEM ORIGINALLY REQUESTED)

T

FREIGHT CLASSIFICATION NOMENCLATURE

U

V

W

ITEM NOMENCLATURE

X COATING EPOXY

Y

SHIPPERS USE

SELECTED BY AND DATE 1

TYPE OF CONTAINER(S) 2

TOTAL WEIGHT 3

PACKED BY AND DATE 4

NO. OF CONTAINERS 5

TOTAL CUBE 6

RECEIVERS USE

RECEIVED BY AND DATE
7 KEE 6-20-98

INSPECTED BY AND DATE 8

WAREHOUSED BY AND DATE 9

WAREHOUSE LOCATION 10

REMARKS

AA

BB

CC

DD Ralph Owen

EE CS(SW)

FOR

FF J.J. ANDERSON LT. SC USN

FIRST DESTINATION ADDRESS

11

DATE SHIPPED

12

13 TRANSPORTATION CHARGEABLE TO

14 B/LADING, AWB, OR RECEIVER'S SIGNATURE (AND DATE)

15 RECEIVER'S DOCUMENT NUMBER

DD Form 1348-1, JUL 91
S/N 0102-LF-013-7500

PREVIOUS EDITION MAY BE USED

DOD SINGLE LINE ITEM RELEASE/RECEIPT

M & S | FSC | NIIN | ADD | UNIT OF ISSUE | SERV | REQUISITIONER | DATE | SERIAL | SUFFIX | SERV | ADDRESS | SIGNAL | DISTRIBUTION | PROJECT | PRIORITY | REQ'D DEL DATE | ADVICE | DOLLARS

8040 010974518 GL 01 20600 5171 7006

COMTE DE GRASSE
774

SHIP TO B

MARK FOR C

PROJECT D

TOTAL PRICE DOLLARS E

LOCATION | TYPE OF CARGO G | UNIT PACK H | UNIT WEIGHT I | UNIT CUBE J | UFC K | NMFC L | FREIGHT RATE M | N | DOCUMENT DATE O | MAT COND P | QUANTITY Q | R | S

DATA (ITEM ORIGINALLY REQUESTED)

FREIGHT CLASSIFICATION NOMENCLATURE U | V

ITEM NOMENCLATURE
X ADHESIVE, FIRE RESISTANT | Y

ED BY AND DATE

TYPE OF CONTAINER(S) 2

TOTAL WEIGHT 3

RECEIVERS USE

RECEIVED BY AND DATE
7 KEE 6-20-95

INSPECTED BY AND DATE 8

BY AND DATE

NO OF CONTAINERS 5

TOTAL CUBE 6

WAREHOUSED BY AND DATE 9

WAREHOUSE LOCATION 10

BB

CC

DD

FOR

ATION ADDRESS

DATE SHIPPED 12

FF J. ANDERSON LT. SC USN

RTATION CHARGEABLE TO

14 B/LADING, AWB, OR RECEIVER'S SIGNATURE (AND DATE)

15 RECEIVER'S DOCUMENT NUMBER

48-1, JUL 91
-013-7500

PREVIOUS EDITION MAY BE USED

DOD SINGLE LINE ITEM RELEASE/RECEIPT DOCUM

---

7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80

M & S | STOCK NUMBER: FSC | NIIN | ADD | UNIT OF ISSUE | QUANTITY | DOCUMENT NUMBER: SERV | REQUISITIONER | DATE | SERIAL | SUFFIX | SERV | SUPPLEMENTARY ADDRESS | SIGNAL | FUND | DISTRIBUTION | PROJECT | PRIORITY | REQ'D DEL DATE | ADVICE | RI | UNIT PRICE DOLLARS | CTS

9150 002618317 GL 0002 V20600 5171 7008

OMTE DE GRASSE
4

SHIP TO B

MARK FOR C

PROJECT D

TOTAL PRICE DOLLARS | CTS E

ATION | TYPE OF CARGO G | UNIT PACK H | UNIT WEIGHT I | UNIT CUBE J | UFC K | NMFC L | FREIGHT RATE M | N | DOCUMENT DATE O | MAT COND P | QUANTITY Q | R | S

(ITEM ORIGINALLY REQUESTED)

FREIGHT CLASSIFICATION NOMENCLATURE U | V

ITEM NOMENCLATURE
X HYDRAULIC FLUID, PETRO BASE | Y

BY AND DATE

TYPE OF CONTAINER(S) 2

TOTAL WEIGHT 3

RECEIVERS USE

RECEIVED BY AND DATE
7 KEE 6-20-95

INSPECTED BY AND DATE 8

AND DATE

NO OF CONTAINERS 5

TOTAL CUBE 6

WAREHOUSED BY AND DATE 9

WAREHOUSE LOCATION 10

BB

CC

DD

FOR

ON ADDRESS

DATE SHIPPED 12

FF J.J. ANDERSON LT. SC USN

TION CHARGEABLE TO

14 B/LADING, AWB, OR RECEIVER'S SIGNATURE (AND DATE)

15 RECEIVER'S DOCUMENT NUMBER

1, JUL 91
3-7500

PREVIOUS EDITION MAY BE USED

DOD SINGLE LINE ITEM RELEASE/RECEIPT DOCUMENT

```
DATE: 05 31/95                 NAVY PUBLIC WORKS CENTER HAZARDOUS WASTE DISPOSAL DIVISION          PAGE:     3
TIME: 14:14:44                              BREAKDOWN OF WASTE RECEIVED FY95

              ACTIVITY                  CODE CLASS & STOCK #                       EPA WASTE#         POUNDS RECEIVED
☐ SORTED BY   JOB ORDER#  TYPE          ITEM NOMENCLATURE                          PWC TYPE SER.      COST PWC
              DOCUMENT#   VESSEL        ADDITIONAL DESCRIPTION                     CONTRACT TYPE SER. COST CONTRACT
DATE:         DRUM#       BLDG#         DOT CLASS/HAZ CLASS/PRODUCT QTY/UNIT       MANHOURS/SPILLS    COST MANHOURS   TOTAL COST
------------------------------------------------------------------------------------------------------------------------------------
    3771       USS COMTE DE GRASSE      8010                   CN          1   D001/D005/D006/D007/D008/D009/D011/D035/F002/F003/F00
01 20 95       1640542                  RO WASTE PAINT(ETHYLBENZENE. METHYLENE CHLORIDE. TOLUENE. XYLENE
               5013 7003                1.1.1 TRICHLDROETHANE. ACETONE MEK & METAL)
               9512398                  UN1263  3                                                     232
               NRA [illegible]          PAINT                                      58                 204 16
               3-20-95  DO [illegible]                                             F2                 127 60
                                                                                                                    331 76

    4737       USS COMTE DE GRASSE      8010  01 278 1548      CN          3   0001/D005/0006/0007/D008/0009/0011/0035/F002/F003/F00
02 10 95       1640542    00            RO WASTE PAINT(ETHYLBENZENE. METHYLENE CHLORIDE. TOLUENE. XYLENE
               5023 7001                1.1.1 TRICHLORDETHANE. ACETONE MEK & METAL)
               9522358-60               UN1263  3                                                     124
                                                                                   57                  74 40
               NRA [illegible]                                                     F2                  68 20
               4-24-95  DO # [illegible]                                                                            142.60

TOTAL RECORDS:       13                                                  TOTAL POUNDS RECEIVED        356
                                                                         TOTAL PWC COST               278 56
                                                                         TOTAL MANHOUR COST               00
                                                                         TOTAL CONTRACT COST          195 80

    6791       USS COMTE DE GRASSE      6810  00 281 4163      BT          2   0002/0009/0010
04 04 95       1640542    00            RO WASTE CORROSIVE LIQUID POISON N.D.S (CONTAINS NITRIC ACID AND ME
               5062 7001                CURY, SELENIUM)
               9522960                  UN2922  6.1                                                   58
                                                                                   57                  34.80
               [illegible]                                                         B2                  40.02
               4-20-95                                                                                               74 82

TOTAL RECORDS:       13                                                  TOTAL POUNDS RECEIVED        58
                                                                         TOTAL PWC COST               34.80
                                                                         TOTAL MANHOUR COST               00
                                                                         TOTAL CONTRACT COST          40 02

    4819       USS COMTE DE GRASSE      6505  00 261 7256      CN          1   D001
02 15 95       1640542    00            RQ WASTE ISOPROPANOL
               5027 7011
               9522480                  UN1219  3                                                     2
               NRA 53116  5-16-95                                                  58                  1 76
               DO #031                                                             A1                  3 10
                                                                                                                      4 86

TOTAL RECORDS:       13                                                  TOTAL POUNDS RECEIVED        2
                                                                         TOTAL PWC COST               1.76
                                                                         TOTAL MANHOUR COST               00
                                                                         TOTAL CONTRACT COST          3 10
```

```
DATE: [illegible]                      NAVY PUBLIC WORKS CENTER HAZARDOUS WASTE DISPOSAL DIVISION          PAGE [illegible]
TIME: 14:14:44                                  BREAKDOWN OF WASTE RECEIVED FY95

           ACTIVITY                   CODE CLASS & STOCK #                     EPA WASTE#           POUNDS RECEIVED
☐ SORTED BY JOB ORDER#  TYPE          ITEM NOMENCLATURE                        PWC TYPE SER         COST PWC
           DOCUMENT#   VESSEL         ADDITIONAL DESCRIPTION                   CONTRACT TYPE SER    COST CONTRACT
DATE:      DRUM#       BLDG#          DOT CLASS/HAZ CLASS/PRODUCT QTY/UNIT     MANHOURS/SPILLS      COST MANHOURS   TOTAL COST
----------------------------------------------------------------------------------------------------------------------------
    4906   USS COMTE DE GRASSE        6810                   CN         2
02 16 95   1640542    00              PHOTOLUMINESCENT PAINT
           5027 7009
           9522483                              NOT REGULATED                                       46
                                                                           57                       27 60
           sent to Drms [illegible] 2-23-95                                M2                        8 74
                                                                                                                    36 34
           5625-5931

    4972   USS COMTE DE GRASSE        8040                   BT         1
02 17 95   1640542    00              ADHESIVE
           5027 7006
           9522481                              NOT REGULATED                                        9
           5056 1946                                                       58                        7 04
                                                                           M2                        1 52
           sent to Dcmc 2/21/95                                                                                      8 56

    6912   USS COMTE DE GRASSE        9615  000 985 7099     BT         2
04 05 95   1640542    00              SYNTHETIC OIL
           5082 7002
           9522958-59                           NOT REGULATED                                      126
                                                                           57                       75 60
                                                                           M2                       23 94
                                                                                                                    99 54

TOTAL RECORDS:      13                                               TOTAL POUNDS RECEIVED         4413
                                                                     TOTAL PWC COST                2665 04
                                                                     TOTAL MANHOUR COST                .00
                                                                     TOTAL CONTRACT COST            843 95

    3096   USS COMTE DE GRASSE        4240  00 179 1365      OR         1   0001.0003
12 08 94   1640542    00              RO WASTE OXIDIZING SUBSTANCES,SOLID,CORROSIVE,N.O.S (CONTAINS
           4342 6001                  BARIUM HYDROXIDE OCTAHYDRATE. CALCIUM HYDROXIDE. POTASSIUM HYDROXIDE.
           9538450                    UN3085  5 I                                                   69
           NYA 7960427 [illegible]    OBA                                  57                       41 40
           [illegible]                                                     C2                      155.25
                                                                                                                   196.65

TOTAL RECORDS:      13                                               TOTAL POUNDS RECEIVED           69
                                                                     TOTAL PWC COST                  41 40
                                                                     TOTAL MANHOUR COST                 00
                                                                     TOTAL CONTRACT COST            155 25
```

```
DATE: 05/31/95                     NAVY PUBLIC WORKS CENTER HAZARDOUS WASTE DISPOSAL DIVISION              PAGE-      1
TIME: 14:14:43                            BREAKDOWN OF WASTE RECEIVED FY95
-------------------------------------------------------------------------------------------------------------------------
              ACTIVITY                    CODE CLASS & STOCK #                   EPA WASTE#          POUNDS RECEIVED
☐ SORTED BY   JOB ORDER#   TYPE           ITEM NOMENCLATURE                      PWC TYPE SER        COST PWC
              DOCUMENT#    VESSEL         ADDITIONAL DESCRIPTION                 CONTRACT TYPE SER   COST CONTRACT
DATE:         DRUM#        BLDG#          DOT CLASS/HAZ CLASS/PRODUCT QTY/UNIT   MANHOURS/SPILLS     COST MANHOURS   TOTAL COST
-------------------------------------------------------------------------------------------------------------------------
      1787     USS COMTE DE GRASSE        9999                    BG        1
11 07 94       1640542    00              OILY RAGS
               4304 7002
                                                 NOT REGULATED                                        5
                                                                             58                       4.40
                                                                             M6                       1.50
                                                                                                                5.90

      1788     USS COMTE DE GRASSE        9999  00 478 6717       BG        1
11 07 94       1640542    00              OILY FILTERS
               4304 7001
                                                 NOT REGULATED                                        5
                                                                             58                       4.40
                                                                             M2                        .95
                                                                                                                5.35

      1968     USS COMTE DE GRASSE        9150                    DM        9
11 09 94       1640542    00              HYDRAULIC FLUID

               9530408-16                        NOT REGULATED                                        3750
                                                                             57                       2250.00
               Manifest # VVH 522007                                         M2                        717.50
                 11-16-94        Do # 0230                                                                      2962.50

      2572     USS COMTE DE GRASSE        9999  00 205 1711       BG        2
11 23 94       1640542    00              OILY RAGS
               4321 7001
                                                 NOT REGULATED                                        50
                                                                             58                       44.00
                                                                             M6                       15.00
                                                                                                                59.00

      4123     USS COMTE DE GRASSE        9150  00 681 5999       DM        1
01 31 95       1640542    00              SYNTHETIC LUBRICATING OIL
               5025 7086
               9522395                           NOT REGULATED                                        420
               sent to DLM:                                                  57                       252.00
                 2-3-95 (5050-793.)                                          M2                        79.80
                                                                                                                331.80
```

SERVMART SHOPPING LIST FOR SERVMART NOB

Date 5191
Page 1 of 2

COMMAND	REQUISITION NO.	FUND CODE
SS SAIPAN LHA-2	DRAFT	

IG CODE: SUPP ADDRESS: WORK CENTER:

OST CODE: OBJ CLASS CODE: ORG CODE: JOB ORDER:

NSN	DESCRIPTION	UOI	QTY	UNIT	EXTEND	LOC
0-00-5261129	DISINFECTANT, IODINE BASE, 1GL	BT	5	12.59	62.95	A006
	HM POISONOUS - MATTER					
5-01-2842924	BAG, TRASH, SHP BRD 30 GL BIOD	BE	2	20.03	40.06	BAY2
0-00-0456912	WAX REMOVER,5GL CON HAZ	CN	5	12.41	62.05	BAY3
0-00-9265280	DETERGENT,SPRAY/WIPE 16 OZ HAZ	BX	4	56.39	225.56	BAY4
0-01-1838585	WAX, NONBUFFING,FLOOR, 5GL HAZ	CN	5	29.21	146.05	BAY5
5-01-1839764	BAG, PLASTIC, 58" X 36",57 GAL	BX	2	19.27	38.54	BAY5
0-00-8239818	POLISH,METAL,2 LB/CN HAZ	CN	3	5.67	17.01	BC10
5-00-6431310	BATTERY, 6 VOLT,BATTLE LANTERN	PG	30	18.35	550.50	BC12
5-00-8357210	BATTERY, D CELL ENERGIZER 12EA	PG	12	6.86	82.32	BC12
5-00-4887952	BOTTLE, APPLICATOR, 16 OZ.	EA	20	0.90	18.00	BE10
0-00-0793762	PAINT,AEROSOL,WHITE/#17875 HAZ	BX	2	18.24	36.48	BG06
0-00-5825382	PAINT,AEROSOL,BLACK,#37038 HAZ	PT	12	1.44	17.28	BG06
0-01-1775119	ECO-LAB, SOLITAIRE	BX	5	99.00	495.00	BG15
0-01-2368941	ECO-LAB, SILVER PWR, PRE-SOAK	BX	5	65.00	325.00	BG15
	HM POISONOUS - MATTER					
0-01-2368942	ECO-LAB, SPOT FREE	BX	6	109.00	654.00	BG16
0-00-1817933	ANTIFREEZE, FIVE GALLON/CO	CN	5	33.67	168.35	BH04
	HM POISONOUS - MATTER					
0-01-3633573	BIRSCH, SPRAY/BUFF BLUE KNIGHT	BX	2	59.24	118.48	BI03
0-01-3840618	DEGREASER, IMPACT INDUST./ALRE	QT	72	7.27	523.44	BIXXXXXX
5-00-6345023	APRON, RUBBER, BLACK WITH BIB	EA	3	6.75	20.25	N003
0-01-3468259	SAVIN,TONER,SSRE,CLAS 2(5CART)	BX	3	91.98	275.94	O003
0-00-2401525	PENCIL, CHINA MARKER, WHITE	DZ	1	1.76	1.76	Q003
0-00-2401526	PENCIL, CHINA MARKER, BLACK	DZ	1	1.76	1.76	Q003
5-00-9002139	BATTERY, 9VOLT,ENERGIZER(12EA)	PG	10	11.11	111.10	SECURE 1
5-00-9857845	BATTERY, AA ENERGIZER (24 EA)	PG	5	5.44	27.20	SECURE 1
0-01-2074268	PEN, ROLLERBALL, FINE, BLACK	DZ	4	2.95	11.80	SECURE 1
~~0-00-2217957~~	~~RATCHET, 1/4" DR. (4.25" LG.)~~	~~EA~~	~~1~~	~~11.92~~	~~11.92~~	~~U001~~
~~0-00-2306385~~	~~RATCHET, 1/2" DR. (9"LG.)~~	~~EA~~	~~1~~	~~20.04~~	~~20.04~~	~~U001~~

Total this page $ 4,062.84

0106-LF-063-8633 SPECIAL REQUEST AUTHORIZATION

0103-610-8000 MUSTER REPORT

SERVMART SHOPPING LIST (4491)
NAVSUP FORM 1314 (REV. 4-84)
S/N 0108-LF-501-3142

MATERIAL CATEGORY	PAGE OF	JULIAN DATE 5186	
SHIP/ACTIVITY USS SAIPAN LHA-2	REQUISITION NO.	FUND CODE	

ITEM NO.	COG SYM AND NSN	DESCRIPTION	U/I	QTY	UNIT PRICE		EXTENSION		REQUIRING DEPT.
1	8010-01-344-5304	Haze Gray	CN	20	135	63	2712	60	
2	8010-01-344-5322	White Form 30	CN	40	129	44	5177	60	
3	8010-01-334-3002	Red Striping	GL	10	25	84	258	40	
4	8010-01-333-9820	Blue Striping	GL	20	18	70	374	00	
5	8010-01-336-3981	Orange Striping	PT	4	4	57	18	28	
6	8010-00-558-7026	Thinner	CN	15	15	72	235	80	
7	8030-01-370-6234	MONCORUST COAT	GL	20	89	00	1980	00	
8	8010-01-040-5786	GOLD	QT	2	7	90	15	80	
9	8010-01-324-5087	Paint Brown	GL	2	18	00	36	00	
0	8010-00-286-7854	PAINT Black Flat	GL	10	10	50	105	00	
1	8010-01-344-5317	Gray Machinery	GL	20	25	31	506	20	
2	8010-01-344-6700	Red Deck	CN	15	115	74	1736	10	
3									
4									
5							$13155	78	

TYPED OR PRINTED NAME AND RANK OR GRADE OF AUTHORIZED SHOPPER Mt CWO 2 BOSN

DISTRIBUTION: WHITE - Shopper's Copy, YELLOW - Mail to Ship/Activity, PINK - Store's Copy (Optional), GOLD - Supply Officer's Copy

I CERTIFY THAT THE PURCHASE OF MATERIALS LISTED HEREON IS NECESSARY FOR THE OFFICIAL BUSINESS OF THE NAVY.
REQUESTED BY (FOR DIRECT TURNOVER MATERIAL): LT
APPROVED BY:

List of Authorized Hazardous Material Stowage Locations

This list will list all of the authorized shipboard locations where Hazardous Material (HM) is stored, and includes in-use materials, lockers, storerooms, and issue rooms. This list is a locally developed form.

LOCATION	TYPE STORAGE	MATERIALS	RESPONSIBLE DIVISION
2-9-1-A	GENERAL HM STOREROOM	ACID/GREASE SOLVENTS/TOXIC	SS01
2-17-1-K	FLAM LIQUID STOREROOM	OIL/PAINT/ALCOHOL	SS01
3-49-1-A	DRY STOREROOM	ABSORBANT CLAY/DECK UNDERLAYMENT	SS01
4-57.5-2-L	GENERAL HM STOREROOM	CLEANING/ DECK CHEMICALS	SS01
5-57-1-A	GENERAL HM STOREROOM	REPRODUCTIVE EQUIP CHEMICALS/ PMLs/ OBA CANNISTERS	SS01
3-58-2-A	GENERAL HM STOREROOM	CLEANING CHEMICALS	SS01
5-75-8-A	ACID STOREROOM	ACID/ SODIUM BICARB	SS01
5-73-1-A	GENERAL HM STOREROOM	SCULLERY CHEMICALS	SS02
3-73-4-A	BARBER SHOP STOREROOM	BARBER SHOP CHEMICALS	SS03
4-73-0-Q	LAUNDRY CHEMICAL IN-USE BINS	IN-USE LAUNDRY CHEMICALS	SS03
5-73-4-A	LAUNDRY STOREROOM	LAUNDRY CHEMICALS	SS03
4-76-2-Q	DRY CLEANING PLANT	IN-USE DRY CLEANING COMPOUND	SS03
01-94-2-Q	GENERAL HM STOREROOM	PHOTO/REPRODUCTIVE EQUIPMENT CHEMICALS	SS09
1-101-3-Q	HM ISSUE OFFICE	GREASE/ CLEANING CHEMICALS	SS09

Enclosure 2

3-110-2-K	FLAM LIQUID STOREROOM	GREASE/OILS/ALCOHOL/ SOLVENTS/PENETRANTS	SS09
1-114-1-K	FLAM LIQUID STOREROOM	FLAMMABLE LIQUIDS/ SPRAY PAINT/ AEROSOLS	SS09
1-67-0-Q	MACHINE SHOP	METAL CUTTING AND INSPECTION CHEMICALS	EA09
1-75-0-Q	BATTERY SHOP	BATTERY ACID	EE02
6-65-0-E	FORWARD MMR	HYDRAZENE IN-USE	EB14
4-69-2-A	ENGINEERING HM STOREROOM	WATER ANALYSIS/ TREATMENT CHEMICALS CALCIUM HYPOCHLORITE	EB14
2-68-2-A	ENGINEERING OIL LAB	OIL/WATER ANALYSIS CHEMICALS	EB14
2-71-4-L	ACID LOCKER	ACID/REAGENTS MERCURIC NITRATE	EB14
3-71-2-A	ENGINEERING HM STOREROOM	WATER ANALYSIS/ TREATMENT CHEMICALS	EB14
6-81-0-E	AFT MMR	HYDRAZENE IN-USE	EB14
01-81-2-A	MEDICAL STORES AND FLAM LOCKER	X-RAY/MEDICAL CHEMICALS	MH01
1-122-1-Q	POWER PLANTS SHOP	OIL ANALYSIS CHEMICALS	IM02
1-127-2-Q	AIR FRAMES WORK CTR	METAL CUTTING/CLEANING/ INSPECTION CHEMICALS	IM02
2-1-1-K	FLAM LIQUID STOREROOM	PAINT/ AEROSOL INSECTICIDES	DA01
2-1-2-Q	PAINT MIXING/	PAINT/EPOXY	DA01
5-77-0-Q	PRINT SHOP	REPRODUCTIVE EQUIP CHEMICALS	XP01
04-82.5-1-Q	PHOTO LAB	PHOTO CHEMICALS	OP01
LWR VEHICLE DECK	GENERAL EQUIP/PARTS STOWAGE	AFFF/FIRE RESISTANT HYDRAULIC FLUID	ENG

```
 -5                         H A Z A R D O U S   I N V E N T O R Y   C O N T R O L   S Y S T E M
 :        1
 95                                          Master List - Location Sequence , All Items

                                             List All NSNs
                                                                                   Price     Qty
umber          NSN                   Nomenclature                  Military Spec.  Per I/S   On Hand    V-F  U/I
=============== ==================== ============================= ==============  ========  =======    ===  =====
Loc     C/A Qty   Low    High  Weight I/S    Volume I/S   VOC  Remarks
=====   =======   ====   ====  ==========    ==========   ===  ==================

I              MSA - - -             BLACK RESPIRATOR CARTRIGES                        0.00      60          0
              9     20    100    1.00 OZ       0.00        0  ONLY GOOD FOR 8 HRS
--------------------------------------------------------------------------------------------------------------------
 CHEMICAL      7930-00-459-2247      OVEN CLEANER                                      0.00       3          0  CN
-3-Q          0      1      5    8.00 OZ       0.50 QT     0  TYPE II T6
--------------------------------------------------------------------------------------------------------------------
ON             6810-00-264-6618      SODIUM BICARBONATE, TECH                          0.00       5          0  BX
1             0      5     15    1.00 LB       0.50 QT     0  TYPE II 00
--------------------------------------------------------------------------------------------------------------------
NDUSTRIES      7510-01-070-2806      CORRECTION FLUID  (WHITE)                         0.00       8          0
1             8      4     12    8.00 OZ       0.50 QT     0  REINSPECT 00
--------------------------------------------------------------------------------------------------------------------
N INDUSTRIES   8030-01-041-1596      CORROSION PREVENTIVE COMP     MIL-C-85054A        0.00      87          0  CN
2            87     50    100   16.00 OZ       0.50 QT     0  T4 TYPE 2 -T7  REINSPECT 07/98
--------------------------------------------------------------------------------------------------------------------
ADY            6135-00-120-1028      BATTERY, C SIZE                                   0.00       7          0  BATT
3             7      5     10   16.00 OZ       0.50 QT     0
--------------------------------------------------------------------------------------------------------------------
A GEL          6685-00-752-8240      HUMIDITY INDICATOR                                0.00       2          0  CN
7             2      1      5   16.00 OZ       0.50 QT     0  TYPE II 00
--------------------------------------------------------------------------------------------------------------------
               6685-00-757-8240      HUMIDITY INDICATOR                                0.00       1          0
7             1      0      2    8.00 LB       1.00 GL     0  INSPECT 00
--------------------------------------------------------------------------------------------------------------------
               6850-01-348-3087      DEVELOPER CLASS II & III                          0.00      56          0  BT
7            56     45     60    6.00 OZ       0.50 QT     0  TYPE II 00
--------------------------------------------------------------------------------------------------------------------
 COMPANY       9075-00-272-9256      CHALK, CARPENTERS                                 0.00       1          0
7             1      0      3    1.00 OZ       0.00 GL     0  TYPE II 00 NO REINSPECTION
--------------------------------------------------------------------------------------------------------------------
CHEMICAL, CORP 6810-00-270-9989      TALC, TECH, POWDER FORM                           0.00       3          0  CN
3             0      1      5   16.00 OZ       0.50 QT     0  TYPE II 00
--------------------------------------------------------------------------------------------------------------------
TIC CHEMICAL CO 8510-00-817-0295     TALCUM POWDER                                     0.00       8          0  BT
8             0      5     15   16.00 OZ       0.50 QT     0  00
--------------------------------------------------------------------------------------------------------------------
D ENTERPRS INC 6550-01-384-0618      IMPACT CONCENTRATE                              131.71      39          0  BT
9            39     15     40   12.00 OZ       0.25 QT     0  F1F009/SHOP
--------------------------------------------------------------------------------------------------------------------
```

```
                                                                                   Price     Qty
Part Number          NSN                  Nomenclature                 Military Spec.  Per I/S   On Hand   V/F  U/I
==================== ==================== ============================= ============== ========  =======   ===  =====
Location   C/A Qty   Low   High Weight I/S   Volume I/S   VOC Remarks
========== =======   ====  ==== ==========   ==========   === ==================


HP 92274A            7520-LL-002-0752     TONER CARTRIDGE              HP-4L              59.00      27         0 EA
F1F010             0      10     50    1.00 OZ       1.00 GL     0 RETAIN BOX/PACKAGE STICKER WHEN SWAPPING OUT/ TYPE II 0
--------------------------------------------------------------------------------------------------------------------------
XEROX                6850-01-256-1116     DEVELOPER 1048                                   0.00       4         0 BX
F1F011             4       1      5   11.00 OZ       0.50 QT     0 00
--------------------------------------------------------------------------------------------------------------------------
POLY RESEARCH CORP.  6810-01-304-5373     HYDRAZINE 7% SOLUTION                            0.00       7         0 BT
F1F015             7      10     20    9.00 LB       1.00 GL     0 REINSPECT 12/95
--------------------------------------------------------------------------------------------------------------------------
                     6140-01-131-9696     BATTERY, WET                                     0.00       2         0 BATT
F1F021             2       5     20   16.00 OZ       0.50 QT     0 TPYE I 9/95
--------------------------------------------------------------------------------------------------------------------------
OCTAGON PROCESS INC. 6850-01-287-8067     CORROSION INHIBITOR LQD      MIL-A-53009         0.00      20         0 CN
F1F022            20      15     30    5.00 LB       1.00 GL     0 TYPE II 00
--------------------------------------------------------------------------------------------------------------------------
15080                8010-00-721-9747     PAINT BLUE SPRAY                                 0.00       0         0 CN
F1F024             0       1     10   16.00 OZ       0.50 QT     0 TYPE II T6
--------------------------------------------------------------------------------------------------------------------------
                     8010-00-935-7071     PAINT LACQUER ACRYLIC GRE    MIL-L-81352         6.31      13         0 QT
F1F024             3       1      5   16.00 OZ       0.50 QT     0 T6 REINSP 11-96
--------------------------------------------------------------------------------------------------------------------------
ECO SURE             8010-01-331-6107     PAINT GLOSS BLACK SPRAY      A-A-2787            0.00       1         0 CN
F1F024             1       1     15   16.00 OZ       0.50 QT     0 TYPE I T4 REINSP 2-96
--------------------------------------------------------------------------------------------------------------------------
ECO-SURE             8010-01-331-6114     PAINT GLOSS YELLOW SPRAY                         0.00       5         0 CN
F1F024             5      10     15   16.00 OZ       0.50 QT     0 TYPE II T4  REINSP 11-96
--------------------------------------------------------------------------------------------------------------------------
ECO SURE             8010-00-079-3762     PAINT GLOSS WHITE SPRAY                          0.00       0         0 CN
F1F025             0       1      5   16.00 OZ       0.50 QT     0 TYPE II T6 24 MONTHS
--------------------------------------------------------------------------------------------------------------------------
SO SURE              8010-00-141-2951     PAINT DARK GREEN SPRAY                           0.00       2         0 CN
F1F025             2      10     15   16.00 OZ       0.50 QT     0 T6 REINSP 5-96
--------------------------------------------------------------------------------------------------------------------------
                     8010-00-935-7085     PAINT GRAY SPRAY             MIL-L-81352         0.00      13         0 CN
F1F025            13       1     15   13.00 OZ       0.00 QT     0
--------------------------------------------------------------------------------------------------------------------------
SO SURE              8010-00-941-8712     PAINT OLIVE DRAB SPRAY       MIL-L-19538         0.00      50         0 CN
F1F025            50      30     55   11.50 OZ       0.50 QT     0 REINSPECT 12/95
--------------------------------------------------------------------------------------------------------------------------
```

```
-5                  H A Z A R D O U S  I N V E N T O R Y  C O N T R O L  S Y S T E M                  Page:     3
95                           Master list - Location Sequence , All Items
                                          List All NSNs
                                                                           Price     Qty
umber          NSN                  Nomenclature               Military Spec.    Per I/S   On Hand   V/P  U/I
============== ==================== ============================== ==============    ========  =======   ===  =====
on    C/A Qty    Low    High  Weight I/S    Volume I/S   VOC  Remarks
====  =======    ====   ====  ==========    ==========   ===  ==================

AL IND. FIN.   8010-01-332-3743    PAINT GLOSS BEIGE ENAMEL       A-A-2787           0.00      15          0  CN
          15      10     20   10.00 OZ        0.50 QT     0  TYPE II T4 REINSP 2-96
------------------------------------------------------------------------------------------------------------------
A CORP.        7530-00-F01-4466    DRUMKIT DK-3                                      0.00       4          0  BX
           4       1      5    5.00 LB        2.00 GL     0  TYPE II 00
------------------------------------------------------------------------------------------------------------------
AN GAS/CHEM CO 6850-00-142-8840    REMOVER, INSPECTION PEN.       MIL-1-25135D       0.00       2          0  CN
           2       1      5   12.00 OZ        0.50 QT     0  REINSPECT 7/97
------------------------------------------------------------------------------------------------------------------
E              6850-00-973-9091    FLUID PENETRATING                                 0.00       6          0  CN
           6       5     10   10.00 OZ        0.50 QT     0  REINSPECT 4/96
------------------------------------------------------------------------------------------------------------------
 INDUSTRIES    8040-00-444-8752    ADHESIVE SPRAY                                    0.00       4          0  CN
           4       5     10   19.00 OZ        0.50 QT     0  REINSPECT 1/96
------------------------------------------------------------------------------------------------------------------
               6850-00-333-4858    TONER CLASS III                                   0.00       9          0  BT
           0       5     20    1.00 LB        1.50 QT     0  00
------------------------------------------------------------------------------------------------------------------
               9150-00-823-7860    DIMETHYLSILICONE COMPOUND                         0.00      21          0  CN
          21      10     30   16.00 OZ        0.50 QT     0  TYPE II 00
------------------------------------------------------------------------------------------------------------------
INDUSTRIES     8030-00-546-8637    CORROSION PREVENTIVE COMP      MIL-C-81309D       0.00      17          0  CN
          17      15     20   16.00 OZ        0.50 QT     0  REINSPECT 1/96
------------------------------------------------------------------------------------------------------------------
               8030-00-938-1947    CORROSION PREVENTIVE COMP      MIL-C-81309D       0.00      17          0  CN
          17      10     20   16.00 OZ        0.50 QT     0  REINSPECT 7/96 TYPE II
------------------------------------------------------------------------------------------------------------------
               8030-01-008-3058    BATTERY, CORR PREV. SPRAY                         0.00      22          0  CN
          22      15     20   16.00 OZ        0.50 QT     0  TYPE II T4  REINSPCT 07/96
------------------------------------------------------------------------------------------------------------------
 INT'L INC     9510-00-823-7860    LUBRICATING COMPOUND                              0.00      21          0
          21      12     23   16.00 OZ        1.00 GL     0  TYPE II T4 REINSPECT 08/96
------------------------------------------------------------------------------------------------------------------
               6850-01-256-1111    TONER SAVIN                                       0.00       1          0  BT
           1       1     10   11.60 OZ        0.50 QT     0  TYPE II 00
------------------------------------------------------------------------------------------------------------------
 INT'L INC.    9150-00-823-7860    LUBRICATING COMP DIMETHYL                         0.00      21          0  CN
          21      10     25   16.00 OZ        0.50 QT     0  TYPE II 00
------------------------------------------------------------------------------------------------------------------
```

```
                                                                                            Price      Qty
Part Number          NSN                  Nomenclature                    Military Spec.    Per I/S    On Hand     V/P   U/I
==================== ==================== ============================== ==============    ========   =======     ===   =====

Location     C/A Qty    Low    High  Weight I/S     Volume I/S   VOC  Remarks
==========   =======    ====   ====  ==========     ==========   ===  ==================


XEROX                6850-01-164-5738     FUSER LUBRICANT                                       0.00       20          0  BT
F1F043                 0       5     20    1.00 LB    200.00 QT      0  00
------------------------------------------------------------------------------------------------------------------------------
SAVIN                6850-01-256-1094     FUSER OIL                                             0.00       12          0  BT
F1F044                12       5     15   16.00 OZ      0.50 QT      0  TYPE II 00
------------------------------------------------------------------------------------------------------------------------------
CROSSFIELD PROD CORP 5610-00-827-1652     PAINT DECK COVERING             MIL-D-3134-G          0.00       1           0  BAGS
F1F051                 0       5     20   38.00 LB      5.00 GL      0  TYPE II 00
------------------------------------------------------------------------------------------------------------------------------
                     8010-01-331-6108     PAINT FLAT BLACK SPRAY                                0.00       6           0
F1F24                  6       1     15   12.25 OZ      0.00 GL      0  TYPE II T4 12 MONTHS
------------------------------------------------------------------------------------------------------------------------------
                     9150-00-985-7316     GREASE GENERAL PURPOSE          MIL-G-23549C          0.00       3           0  CN
F2F                    3       1     10    1.75 LB      0.00 QT      0  REINSP 5-96
------------------------------------------------------------------------------------------------------------------------------
HILLYARD INDUSTRIES  7930-01-183-8585     FLOOR POLISH, NONBUFFING                              0.00       7           0  CN
F2F201                 7       5     20   40.00 LB      5.00 GL      0  TYPE 2 T6 REINSPECT 6/96 MAN. 6/94 HC=T
------------------------------------------------------------------------------------------------------------------------------
GOVERNMENT CONTRACT  6810-00-238-8119     NAPHTHA, ALIPHATHIC             TT-N 95B              0.00       1           0  CN
F2F202                 1       1      5    9.00 LB      1.00 GL      0  TYPE II T7 REINSP. 6/98 HC=F
------------------------------------------------------------------------------------------------------------------------------
CSD INC              8010-00-181-8080     THINNER AIRCRAFT COATING        MIL-T-81722           0.00       3           0  CN
F2F202                 3       1      5    9.00 LB      1.00 GL      0  REINSP. 9/96 HC=F
------------------------------------------------------------------------------------------------------------------------------
PUMA TECH            8010-01-200-2637     THINNER AIRCRAFT COATING        VV-D-1078B            0.00       1           0  CN
F2F202                 1       1      5    9.00 LB      1.00 GL      0  REINSP. 2/97 HC=F
------------------------------------------------------------------------------------------------------------------------------
BULK CHEM            9150-00-024-9624     FLUID DAMPING                                         0.00       2           0  CN
F2F202                 2       1      5    1.00 LB      0.50 QT      0  REINSP. 6/97 HC=F
------------------------------------------------------------------------------------------------------------------------------
AMERICAN WRITING INK 9150-00-231-9045     OIL LUBRICATING G. P.           VV-L-800              0.00       5           0  CN
F2F202                 5       3      5    5.00 LB      1.00 GL      0  TYPE II T7 REINS. 3/97
------------------------------------------------------------------------------------------------------------------------------
INLAND PACKAGING     9150-01-056-7346     FLUID DAMPING                                         0.00       1           0  CN
F2F202                 1       1      5    9.00 LB      1.00 GL      0  REINSP. 6-97 HC=F
------------------------------------------------------------------------------------------------------------------------------
OCTAGON PROCESS INC  9150-00-152-4117     OIL LUBE ENGINE SAE 30          MIL-L-2104E           0.00       3           0  CN
F2F203                 3       1      5    1.00 LB      1.00 QT      0  TYPE 2 REINSP. 6/97 HC=F
------------------------------------------------------------------------------------------------------------------------------
```

```
-5                  H A Z A R D O U S  I N V E N T O R Y  C O N T R O L  S Y S T E M                Page:     5
95                                Master list - Location Sequence , All Items
                                             List All NSNs
                                                                                   Price      Qty
umber          NSN                 Nomenclature                  Military Spec.   Per I/S    On Hand    V/P  U/I
============== =================== ============================= ==============   ========   =======    ===  =====
on    C/A Qty    Low   High  Weight I/S    Volume I/S   VOC  Remarks
=====  =======    ====  ====  ==========    ==========   ===  ==================

AL OIL CO      9150-00-188-9858    OIL LUBE ENGINE SAE 30        MIL-L-2104E         0.00        4          0  CN
             4       1      5   40.00 LB       5.00 GL     0  TYPE 2 REINSP. 6/97 HC=F
-------------------------------------------------------------------------------------------------------------------
AL OIL CO      9150-00-235-9061    OIL LUBE STEAM TURBINE        MIL-L-17331H        0.00        4          0  CN
             4       1      5   40.00 LB       5.00 GL     0  TYPE II REINSP. 8/95 HC=F
-------------------------------------------------------------------------------------------------------------------
 PRODUCTION    6810-00-275-6010    METHANOL                                         19.46        1          0  CN
             1       1      1   40.00 LB       5.00 GL     0  TYPE II REINSP. 6/97 HC=F
-------------------------------------------------------------------------------------------------------------------
C              6810-00-984-4070    XYLENE TECHNICAL                                  0.00        1          0  CN
             1       1      1   40.00 LB       5.00 GL     0  TYPE II REINSP. 6/98 HC=F
-------------------------------------------------------------------------------------------------------------------
 PROD CORP     6810-00-476-5612    TRICHLOROETHANE INHIBITED     MIL-T-81533-A      67.85        1          0  CN
             1       5     20    1.00 LB       5.00 GL     0  TYPE II 00
-------------------------------------------------------------------------------------------------------------------
N PROCESS      6810-00-476-5612    CLEANING COMPOUND TRICH       MIL-T-81533A        0.00        3          0  CN
             3       1      5   40.00 LB       5.00 GL     0  HC=T   REINSPECT 06/98
-------------------------------------------------------------------------------------------------------------------
               6850-01-277-0596    CLEANING COMPOUND HISOLV                          0.00        1          0  CN
             1       1      1   40.00 LB       5.00 GL     0  REINSP. 6/96
-------------------------------------------------------------------------------------------------------------------
D CHEMICAL CO  7930-00-045-6912    FLOOR POLISH REMOVER          A-A-861             0.00       10          0  CN
            10       1      5   40.00 LB       5.00 GL     0  REINSP. 12/96 HC=T     REINSP. 02/97
-------------------------------------------------------------------------------------------------------------------
IL COMPANY     6850-00-274-5421    DRY CLEANING SOLVENT          PD-680              0.00        3          0  CN
             3       1      5   40.00 LB       5.00 GL     0  REINSP. 9/96 HC=F
-------------------------------------------------------------------------------------------------------------------
C              6850-00-274-5421    DRY CLEANING SOLVENT          PD-680              0.00        1          0  CN
             1       1      5   40.00 LB       5.00 GL     0  REINSP. 6/98 HC=F
-------------------------------------------------------------------------------------------------------------------
N PROCESS      6850-00-274-5421    DRY CLEANING SOLVENT          PD-680              0.00        1          0  CN
             1       1      5   40.00 LB       5.00 GL     0  REINSP. 6/98 HC=F
-------------------------------------------------------------------------------------------------------------------
               6850-00-274-5421    DRY CLEANING SOLVENT          HISOLV 140          0.00        0          0  CN
             0       1      5   40.00 LB       5.00 GL     0  REINSP. 6/98 HC=F
-------------------------------------------------------------------------------------------------------------------
               8030-00-272-8530    GUN SLUSHING COMPOUND         MIL-C-18487A        0.00        1          0  CN
             1       1      5   40.00 LB       5.00 GL     0  REINSPECT 6/98 HC=F / TYPE II T7
-------------------------------------------------------------------------------------------------------------------
```

```
                                   Master list - Location Sequence , All Items
                                                List All NSNs
                                                                             Price     Qty
Part Number          NSN                  Nomenclature                Military Spec.  Per I/S   On Hand   V/F  U/I
==================== ==================== ============================ ============== ========  ========  ===  =====
Location   C/A Qty  Low  High Weight I/S  Volume I/S  VOC Remarks
========== =======  ==== ==== ==========  ==========  === ==================


BRAY OIL CO INC      9150-00-687-4241     OIL LUBE SEMI FLUID          MIL-L-46000B     0.00      19        0  CN
F2F212          19     5   20  32.00 OZ      1.00 QT    0 TYPE 2 REINSP. 6/97
------------------------------------------------------------------------------------------------------------------
HATCO CORP           9150-00-985-7099     OIL LUBE ACFT TURBO SHAFT    MIL-L-23699C     0.00       1        0  CN
F2F212           1     1    5  32.00 OZ      1.00 QT    0 TYPE II REINSP. 6/98
------------------------------------------------------------------------------------------------------------------
ROYAL LUBRICANTS CO  9150-01-082-8369     OIL LUBE ACFT TURB ENG SY                     0.00      18        0  CN
F2F212          18    15   20  32.00 OZ      1.00 QT    0 TYPE 2 T7 REINSP. 6/98
------------------------------------------------------------------------------------------------------------------
                     8030-00-244-1293     CORROSION PREVENTIVE COMP                     0.00       1        0  CN
F2F213           1     1    3  40.00 LB      5.00 GL    0 HC=F  REINSPECT 06/98
------------------------------------------------------------------------------------------------------------------
IMPERIAL             9150-01-035-5395     OIL LUBE GEAR                MIL-L-2105D      0.00       1        0  CN
F2F213           1     1    5  40.00 LB      5.00 GL    0 REINSPECT 6/97
------------------------------------------------------------------------------------------------------------------
OCTAGON PROCESS CO   9150-01-048-4591     OIL LUBE GEAR                MIL-L-2105C      3.75      20        0  CN
F2F213          20    10   30  32.00 OZ      1.00 QT    0 TYPE II REINSPECT 6/97
------------------------------------------------------------------------------------------------------------------
SHELL OIL CO         9150-01-035-5393     OIL LUBE GEAR                MIL-L-2105D     24.72       2        0  CN
F2F214           2     1   10  40.00 LB      5.00 GL    0 TYPE II REINSPECT 8/96 HC=F
------------------------------------------------------------------------------------------------------------------
MICRO CARE CORP      6850-00-319-0834     CLEANING COMPOUND TRICH      MIL-C-81302D     0.00      25        0  CN
F2F216          25    20   30   9.00 LB      1.00 GL    0 TYPE II REINSPECT 6/98 HC=F (OKXX3)
------------------------------------------------------------------------------------------------------------------
CSD INC              6810-00-286-5435     ALCOHOL ISOPROPYL            TT-I-735         0.00       0        0  CN
F2F218           0     1    5   8.00 LB      1.00 GL    0 REINSPECT 6/98 HC=F
------------------------------------------------------------------------------------------------------------------
ROYAL LUBRICATING CO 9150-00-265-9417     OIL LUBE GEAR                MIL-L-6086C      0.00       1        0  CN
F2F218           1     1    5   8.00 LB      1.00 GL    0 REINSPECT 6/98 HC=F
------------------------------------------------------------------------------------------------------------------
LHB INDUSTRIES       8030-00-213-3279     CORROSION PREVENTIVE COMP    MIL-C-81309D     0.00       3        0  CN
F2F219           3     1    5   8.00 LB      1.00 GL    0 REINSPECT 8/95
------------------------------------------------------------------------------------------------------------------
ASHLAND OIL INC      8030-00-244-1297     CORROSION PREVENTIVE COMP    MIL-C-16173D     0.00       1        0  CN
F2F219           1     1    5   8.00 LB      1.00 GL    0 REINSPECT 12/96
------------------------------------------------------------------------------------------------------------------
CSD INC              8010-00-221-0611     OIL LINSEED RAW              A-A-379A         0.00       1        0  CN
F2F221           1     1    5   8.00 LB      1.00 GL    0 TYPE II REINSPECT 12/95
------------------------------------------------------------------------------------------------------------------
```

```
-5                 HAZARDOUS INVENTORY CONTROL SYSTEM                                      Page:    7
95                      Master list - Location Sequence , All Items
                                      List All NSNs
                                                                                Price     Qty
umber          NSN                  Nomenclature                Military Spec.  Per I/S   On Hand   V/P  U/I
=============== ==================== ============================ ==============  ========  =======   ===  =====
ion    C/A Qty   Low    High  Weight I/S    Volume I/S   VOC  Remarks
=====  =======   ====   ====  ==========    ==========   ===  ==================

 INDUSTRIES    8030-00-062-6950    CORROSION PREVENTIVE COMP     MIL-C-16173D        0.00      4         0  CN
2              4      1      5    32.00 OZ        1.00 QT      0  REINSPECT 12/96
---------------------------------------------------------------------------------------------------------------
E INC          8030-00-231-2345    CORROSION PREVENTIVE COMP     MIL-C-16173D        0.00      3         0  CN
2              3      1      5     8.00 LB        1.00 GL      0  REINSPECT 12/97
---------------------------------------------------------------------------------------------------------------
RIC SYSTEMS    8040-00-225-4548    ADHESIVE SEALANT RTV          MIL-A-46106B        0.00     56         0  TB
              56     45     60    10.00 OZ        0.50 QT      0  REINSPECT 12/95
---------------------------------------------------------------------------------------------------------------
-HOMANS        8040-00-582-4596    ADHESIVE DECK                 MIL-A-21016F        0.00      1         0  CN
               1      1      5     8.00 LB        1.00 GL      0  REINSPECT 6/96
---------------------------------------------------------------------------------------------------------------
HOWLAND OIL    9150-00-292-9657    OIL LUB REF COMPRESSOR         VV-L-825A          0.00      4         0
               4      0      5     8.00 LB        1.00 GL      0  REINSPECT 06/98
---------------------------------------------------------------------------------------------------------------
NTERNATIONAL   8040-00-515-2245    ADHESIVE POLYCHLOROPRENE      MIL-A-5540B         0.00      3         0  CN
               3      1      5     8.00 LB        1.00 GL      0  REINSPECT 6/96
---------------------------------------------------------------------------------------------------------------
NTERNATIONAL   8040-00-515-2246    ADHESIVE POLYCHLOROPRENE      MIL-A-5540B         0.00     20         0  CN
              20     15     30    16.00 OZ        0.50 QT      0  REINSPECT 6/96
---------------------------------------------------------------------------------------------------------------
O CORPORATION  8040-01-097-4518    ADHESIVE FIRE RES THERMAL     MIL-A-3016C         0.00      8         0  CN
 TYE           8      1     10     8.00 LB        1.00 GL      0  SEE COMPUTER FOR SHELF-LIFE DATES
---------------------------------------------------------------------------------------------------------------
BE INC         8030-00-059-2761    ANTI SEIZE COMPOUND           MIL-A-907E          0.00      6         0  CN
               6      5     10     0.25 LB        0.02 QT      0  TYPE 2 T6 REINSP 6-97
---------------------------------------------------------------------------------------------------------------
BE INC         8030-00-251-3980    ANTI SEIZE COMPOUND           MIL-A-907E          2.72      4         0  CN
               4      0      3    16.00 OZ        0.50 QT      0  TYPE2 T6   REINSPECT 09/01/95 & 06/01/97
---------------------------------------------------------------------------------------------------------------
BE INC         8030-00-286-5453    ANTI SEIZE COMPOUND           MIL-A-907E          0.00      0         0  CN
               0      5     10    16.00 OZ        0.50 QT      0  TYPE2 T6 REINSP 6-97
---------------------------------------------------------------------------------------------------------------
BE CO          8030-00-597-5367    ANTI SEIZE COMPOUND           MIL-A-907E          0.00      5         0
               5      5     10    16.00 OZ        0.50 QT      0  TYPE 2 T6 REINSP 6-97
---------------------------------------------------------------------------------------------------------------
HOWLING OIL CO 9150-00-823-8024    OIL LUBE VACUUM PUMP          MIL-L-83767B        3.17      4         0  BT
               4      1      4     2.00 LB        1.00 QT      0  TYPE 2 T6  REINSPECT 06/97
---------------------------------------------------------------------------------------------------------------
```

```
HI0601-5                     H A Z A R D O U S  I N V E N T O R Y  C O N T R O L  S Y S T E M                  Page:    8
07/11/95                                  Master list - Location Sequence , All Items
                                                     List All NSNs
                                                                                           Price      Qty
Part Number          NSN                  Nomenclature                   Military Spec.    Per I/S    On Hand    V/P  U/I
==================== ==================== ============================== ==============    ========   =======    ===  =====
Location     C/A Qty    Low    High  Weight I/S    Volume I/S    VOC  Remarks
==========   =======    ====   ====  ==========    ==========    ===  ==================

VALDES ENT.          6850-00-181-7933     ANTI-FREEZE                    MIL-A-46513E        30.00       2           0  CN
F2F231             2      1      5   56.00 LB       5.00 GL      0  REINSP. 7/98
--------------------------------------------------------------------------------------------------------------------------
SHELL OIL CO         9150-00-180-6383     GREASE GENERAL PURPOSE         MIL-G-24139          0.00       2           0  CN
F2F233             2      0      5   35.00 LB       5.00 GL      0  TYPE 2 T6  REINSPECT 06/97
--------------------------------------------------------------------------------------------------------------------------
ROYAL LUBICANTS CO   9150-00-965-2003     GREASE MOLYBDENUM DISULF       MIL-G-21164D         0.00       1           0  CN
F2F233             1      0      3   40.00 LB       5.00 GL      0  REINSPECT 06/97
--------------------------------------------------------------------------------------------------------------------------
ROYAL LUB CO         9150-00-935-5851     GREASE G.P. AIRCRAFT           MIL-G-81322          0.00       1           0  CN
F2F234             1      0      5    1.00 OZ      50.00 GL      0  TYPE 2 T6  REINSPECT 06/97
--------------------------------------------------------------------------------------------------------------------------
SOWESCO OLATHE       9150-01-197-7692     GREASE AUTO & ARTILLERY        MIL-G-10924E         0.00       1           0  CN
F2F234             1      4      8    1.00 OZ      50.00 GL      0  TYPE 2 T6 REINSPECT 06/97
--------------------------------------------------------------------------------------------------------------------------
OCTAGON PROCESS INC. 9160-00-685-0913     OIL INSULATING                                      0.00       1           0  CN
F2F234             1      0      5    1.00 OZ       5.00 GL      0  TYPE2 T6 REINSPECT 06/97
--------------------------------------------------------------------------------------------------------------------------
UNITED DESICCANTS    6850-00-264-6573     ACTIVATED DESICCANTS           MIL-D-3464-D         0.00       3           0  CN
F2F237             3      2      5   40.00 LB       5.00 GL      0  TYPE II 00       NEXT INSP. 04/01/96
--------------------------------------------------------------------------------------------------------------------------
EUREKA CHEMICAL CO   9150-00-530-6814     GREASE WIRE ROPE               MIL-G-18458B(S      40.00       4           0  CN
F2F239             4      2      5   39.00 LB       5.00 GL      0  REINSP. 8/95
--------------------------------------------------------------------------------------------------------------------------
CSD INC              6810-00-292-9625     TRICHLOROETHANE TECHNICAL                           4.05       2           0  CN
F2F241             1      5     20    1.00 OZ       1.00 GL      0  TYPE II 00
--------------------------------------------------------------------------------------------------------------------------
SP0450-94-D-0003     6850-00-173-7243     SCALE PREVENTATIVE COMP                             0.00       9           0  CO
F2F241             0      2     15   58.00 LB       6.00 GL      0  REINSPECT 12/98
--------------------------------------------------------------------------------------------------------------------------
OCTAGON PROCESS      9150-01-080-5961     HYDRAULIC FLUID CATAPULT                            0.00      28           0  CN
F2F243            28     20     30    9.00 LB       1.00 GL      0  TYPE II T6  REINSPECT 06/97
--------------------------------------------------------------------------------------------------------------------------
FMC CORP             9150-01-113-2046     HYDRAULIC FLUID FIRE RESI      MIL-H-19457DSH       0.00       3           0  CN
F2F245             3      2      5   16.00 OZ       5.00 GL      0  TYPE 2 T6  REINSPECT 06/97
--------------------------------------------------------------------------------------------------------------------------
#1 SELL OIL CO       9150-00-149-1593     GREASE BALL/ ROLLER BEARN      MIL-G-24508A         8.70      56           0  CN
F2F247            56      0      4    1.00 LB       0.25 QT      0  TYPE 2 T7  REINSPECT  06/98
--------------------------------------------------------------------------------------------------------------------------
```

```
1-5                  H A Z A R D O U S  I N V E N T O R Y  C O N T R O L  S Y S T E M                  Page:    9
/95                            Master list - Location Sequence , All Items
                                            List All NSNs
                                                                         Price      Qty
Number          NSN                 Nomenclature                Military Spec.   Per I/S    On Hand    V/F  U/I
=============== =================== ============================ ==============   ========   =======    ===  =====
ion     C/A Qty   Low   High  Weight I/S     Volume I/S   VOC  Remarks
=====   =======   ====  ====  ==========     ==========   ===  ==================

 LUBRICANTS CO  9150-00-754-2595    GREASE MOLYBDENUM DISULF    MIL-G-21164D         0.00       1          0  CN
7             1      0     5    1.00 OZ        7.00 GL     0  TYPE 2 T6   REINSPECT 06/97
--------------------------------------------------------------------------------------------------------------------
 OIL COMPANY    9150-00-935-4018    GREASE MOLYBDENUM DISULF    MIL-G-21164D         0.00       1          0  TU
7             1      0     3    1.00 OZ        2.00 GL     0  TYPE 2 T6  REINSPECT 06/97
--------------------------------------------------------------------------------------------------------------------
 OIL COMPANY    9150-01-117-2928    GREASE BALL/ ROLLER BEARN   MIL-G-24508A         0.00       4          0  CN
7             4      0     4    1.00 OZ        5.00 GL     0  TYPE 2 T7  REINSPECT 06/98
--------------------------------------------------------------------------------------------------------------------
 OIL CO         9150-00-180-6382    GREASE MULTI-PURPOSE        MIL-G-24139A(S       0.30       5          0  CN
8             5      2     5    1.00 OZ        5.00 GL     0  TYPE 2 T6  REINSPECT 06/97
--------------------------------------------------------------------------------------------------------------------
                9150-00-198-0905    GREASE AUTO & ARTILLERY     MIL-G-10924D         0.00       3          0
8             3      3     7    6.50 LB        6.50 GL     0  T6 TYPE 2  REINSPECT 06/97
--------------------------------------------------------------------------------------------------------------------
0               9150-00-235-5568    GREASE GRAPHITE                                  0.00       3          0  CN
8             1      1     3    1.00 OZ        6.50 GL     0  TYPE2 T7  REINSPECT 06/98
--------------------------------------------------------------------------------------------------------------------
 LUB CO INC     9150-00-944-8953    GREASE AIRCRAFT             MIL-G-81322D         0.00       6          0
9             6      2     5    1.00 OZ        6.50 GL     0  TYPE2 T6  REINSPECT 06/97
--------------------------------------------------------------------------------------------------------------------
 LUB CO INC     9150-00-985-7246    GREASE ACFT & INSTRUMENT    MIL-G-23827B         0.00       1          0  CN
9             1      0     4    1.00 OZ        5.00 GL     0  T6 TYPE 2  REINSPECT 06/97
--------------------------------------------------------------------------------------------------------------------
                9150-01-131-3325    HYDRAULIC FLUID FIRE RESI                        0.00       4          0  CN
4             4      1    20    1.00 OZ        1.00 GL     0  TYPE II T6 REINSPECT 06/97
--------------------------------------------------------------------------------------------------------------------
AMERICA INC     9150-00-149-7432    HYDRAULIC FLUID FIRE RESI   MIL-H-83282C         0.00      27          0  CN
7            27     10    20    9.00 LB        1.00 GL     0  TYPE 2 T6  REINSPECT 02/96
--------------------------------------------------------------------------------------------------------------------
WEST PETRO CHEM 9150-00-985-7234    HYDRAULIC FLD PETRO INHIB   MIL-H-17672D         0.00       0          0  CN
3             0      0     3    1.00 OZ        5.00 GL     0  TYPE 2 T7   REINSPECT 06/97
--------------------------------------------------------------------------------------------------------------------
OL INC          9150-00-261-8317    HYDRAULIC FLD PETRO BASE    MIL-F-17111B         0.00       1          0  CN
9             1      0     3   40.00 LB        5.00 GL     0  REINSPECT 06/97
--------------------------------------------------------------------------------------------------------------------
 OIL            9150-00-657-4959    AUTO TRANSMISSION FLUID                          0.00       4          0  CN
9  M          4      1     7   45.00 LB        5.00 GL     0  REINSPECT 5/96 HC=F
--------------------------------------------------------------------------------------------------------------------
```

```
                                                                       Price     Qty
Part Number         NSN                 Nomenclature                Military Spec.  Per I/S   On Hand   V/P  U/I
=================== =================== ============================ ============== ========  =======   ===  =====
Location     C/A Qty    Low    High  Weight I/S    Volume I/S   VOC  Remarks
==========   =======    ====   ====  ==========    ==========   ===  ==================

ACCUMETRIC INC      9150-00-190-0932    BRAKE FLUID AUTOMOTIVE                          0.00      10         0  CN
P2P263          10       1      20     0.16 LB       1.00 QT     0  TYPE 2 T6  REINSPECT 06/01/98
--------------------------------------------------------------------------------------------------------------
OCTAGON PROCESS     9150-00-231-9071    BRAKE FLUID AUTOMOTIVE                          0.00       3         0  CN
P2P263           3       1       5     9.00 LB       1.00 GL     0  TYPE 2 T7   REINSPECT 06/01/98
--------------------------------------------------------------------------------------------------------------
DOW CORNING CORP    9150-01-102-9455    BRAKE FLUID SILICONE        MIL-B-46176        34.29       2         0  BT
P2P263           2       2       5     9.00 LB       1.00 GL     0  TYPE II T6   REINSPECT 06/01/97
--------------------------------------------------------------------------------------------------------------
AMERICAN OIL SUPPLY 9150-00-448-5009    OIL LUBE INSTRUMENT                             0.00       8         0  CN
P2P264           8       5      10     9.00 LB       1.00 GL     0  TYPE II T7  REINSPECT 06/98
--------------------------------------------------------------------------------------------------------------
OCTAGON PROCESS INC 6850-01-621-1819    LEAK DETECTION COMPOUND     MIL-L-25567         0.00       6         0  BT
P2P275           6       5      20     1.00 OZ       4.00 QT     0  TYPE 2 36 MONTHS
--------------------------------------------------------------------------------------------------------------
AMERICAN WRITING INC 9150-00-261-7899   OIL PENETRATING                                 0.00       8         0  CN
P2P279           8       5      20     1.00 LB       1.00 GL     0  TYPE2 T7  REINSPECT 06/98
--------------------------------------------------------------------------------------------------------------
CASTROL INC         9150-01-131-3324    HYDRAULIC FLUID FIRE RESI   MIL-H-46170B        0.00      19         0  CN
P2P279          19      10      20     1.00 OZ       1.00 GL     0  TYPE 2 T6  REINSPECT 06/97
--------------------------------------------------------------------------------------------------------------
AIRCRAFT SERVICE CO 8040-01-032-4051    PRIMER ADHESIVE                                 0.00       5         0  CN
P2P282           0       5      20     1.00 OZ       1.00 QT     0  TYPE 1  UU
--------------------------------------------------------------------------------------------------------------
RAL RUBE INC        8030-01-103-2868    SEALING COMPOUND                                0.00       5         0  BT
P2P283           5       5      10    16.00 OZ       0.50 QT     0  TYPE2 T6 REINSPECT 12/95
--------------------------------------------------------------------------------------------------------------
RELTON CORP         9150-00-175-9154    FLUID CUTTING                                   0.00       2         0  CN
P2P283           2       1      10    32.00 OZ       1.00 QT     0  TYPE II T7  REINSPECT 06/98
--------------------------------------------------------------------------------------------------------------
OCTAGON PROCESS INC 9150-00-250-0926    PETROLATUM TECHNICAL                            0.00       5         0  CN
P2P283           5       1      20     1.75 LB       1.00 QT     0  TYPE 2 T6  REINSPECT 06/97
--------------------------------------------------------------------------------------------------------------
LOCTITE PUERTO RICO 8040-00-142-9193    ADHESIVE CYANOACRYLATE      MIL-A-46050C        0.00      35         0  BT
P2P284           0      10     200     1.00 OZ       0.50 QT     0  TYPE II T2    NEXT INSP. 07/01/96
--------------------------------------------------------------------------------------------------------------
STEVEN IND          8040-01-068-2423    ADHESIVE                                        0.00       3         0  CN
P2P284           3       1      10     4.00 OZ       0.25 QT     0  TYPE II T6    NEXT INSP. 06/01/97
--------------------------------------------------------------------------------------------------------------
```

```
-5                          H A Z A R D O U S  I N V E N T O R Y  C O N T R O L  S Y S T E M                    Page:    11
95                                        Master list - Location Sequence , All Items
                                                       List All NSNs
                                                                                      Price      Qty
Number          NSN                 Nomenclature                  Military Spec.     Per I/S    On Hand    V/P   U/I
=============== =================== ============================= ==============    ========   =======    ===   =====
Loc      C/A Qty    Low    High  Weight I/S     Volume I/S   VOC  Remarks
=====    =======    ====   ====  ==========     ==========   ===  ==================

ON PROCESS INC. 6850-00-224-6657    RIFLE BORE CLEANER            MIL-C-372C          0.00       5          0  1
7            5       1     10    8.00 OZ        0.25 QT      0  T6 REINSP 7 97
------------------------------------------------------------------------------------------------------------------------
                8030-00-003-7196    SEALING COMPOUND GASKET                           0.00       1          0  CN
8            1       0      3    1.00 LB        0.50 QT      0  TYPE II T2  REINSPECT 12/95
------------------------------------------------------------------------------------------------------------------------
 LOK CORP       8030-00-081-2328    SEALING COMPOUND              MIL-S-22473E        0.00      48          0  BT
9           48      30     50    4.00 OZ        0.10 QT      0  TYPE II T5  REINSPECT 12/96
------------------------------------------------------------------------------------------------------------------------
N INDUSTRIES    8030-00-656-1426    SEALING COMPOUND              MIL-S-45180D        0.00       7          0  BT
8            7       1      4   16.00 OZ        0.50 QT      0  TYPE 2 T6  REINSPECT 06/97
------------------------------------------------------------------------------------------------------------------------
 FREE INC       9150-01-053-6688    CLEANER LUBRICANTS & PRES     MIL-L-63460D        0.00       7          0  BT
9            7       5      9    1.00 OZ        1.00 GL      0  TYPE2 T7   REINSPECT 06/98
------------------------------------------------------------------------------------------------------------------------
 FREE INC       9150-01-054-6453    BREAK FREE                    MIL-L-63460D        0.00      10          0  BT
9           10       5     20    1.00 OZ       16.00 GL      0  TYPE2 T7    REINSPECT 06/01/98
------------------------------------------------------------------------------------------------------------------------
                6233-80-092-9       GULF LITE CRORLESS CHARCOAL ST                    0.00      30          0  CN
2            0      10     50    0.00           1.00 PT      0  N/A
------------------------------------------------------------------------------------------------------------------------
MOTOR CO        3150-80-002-0       MOTORCRAFT FORD TYPE F ATF                        0.00       1          0  BT
6            0       2      5    0.00           1.00 QT      0  N/C
------------------------------------------------------------------------------------------------------------------------
O LUBRICANTS CO 7656-80-020-9       OIL HAVOLINE FORMULA 3                            0.00       1          0  BT
5            0       2      5    0.00           1.00 QT      0  N/C
------------------------------------------------------------------------------------------------------------------------
URE             8310-01-331-6110    PAINT GLOSS RED SPRAY                             0.00       2          0  CN
4            2      10     24   10.75 OZ        0.50 QT      0  TYPE II T4 12 MONTHS REINSP 11-96
------------------------------------------------------------------------------------------------------------------------
NDUSTRIES       8010-00-935-7064    PAINT RED SPRAY               MIL-L-81352         0.00      12          0  CN
5           12       1     12   12.50 OZ        0.00 QT      0
------------------------------------------------------------------------------------------------------------------------
 TICONDEROGA CO 7215-97-200-0       WHITE 31-144 CHALK                                0.00      14          0  BX
4            0       5     20    0.00           1.00 BX      0  00
------------------------------------------------------------------------------------------------------------------------
                4177-14-642-5       HYPO CLEARING AGENT                               0.00      16          0  BAG
7            1       5     20    0.00           1.00 BG      0  00
------------------------------------------------------------------------------------------------------------------------
```

```
HI0601-5                          H A Z A R D O U S  I N V E N T O R Y  C O N T R O L  S Y S T E M                          Page:    12
07/11/95                                                   Master list - Location Sequence , All Items
                                                                           List All NSNs
                                                                                             Price      Qty
Part Number          NSN                  Nomenclature                    Military Spec.     Per I/S    On Hand     V/P   U/I
==================== ==================== ============================== ==============      ========   =======     ===   =====
Location     C/A Qty    Low    High  Weight I/S     Volume I/S   VOC  Remarks
==========   =======    ====   ====  ==========     ==========   ===  ==================

MAGNETIC MEDIA DIV   5111-11-246-5        DATA HEAD CLEANING KIT                                 0.00       2          0  KT
H20048             0       5     20     0.00           0.00        0  00
-------------------------------------------------------------------------------------------------------------------------------
VARN                 2017-33-736-60       PURE GUM ARABIC SOL                                    0.00       1          0  BT
H20059             0       2      5     0.00           0.00        0
-------------------------------------------------------------------------------------------------------------------------------
KODAK                6750-00-201-119      RAPID FIXER PHOTOGRAPHIC                               0.00       2          0  BX
H20091             0       5     20     0.00           0.00        0  TYPE1 6/95
-------------------------------------------------------------------------------------------------------------------------------
                     8010-00-N05-1246     PAINT PHOTOLUMINESCENT                                 0.00      55          0  CN
PAINT LKR          1       5     50     8.00 LB        1.00 GL     0  REINSPECT 4/96 ISSUED AS 3 PARTS
-------------------------------------------------------------------------------------------------------------------------------
                     8010-00-285-4868     PAINT MACHINE GREY                                     0.00      20          0  GL
PAINT LOC          1      24     48     0.00           0.00        0
-------------------------------------------------------------------------------------------------------------------------------
                     8010-00-527-2050     PAINT BLACK STRIP                                      0.00     122          0  GL
PAINT LOC          2       0      0     0.00           0.00        0
-------------------------------------------------------------------------------------------------------------------------------
DALVIN               8010-00-616-7487     PAINT RED                                              0.00      16          0  GL
PAINT LOC          0       5     50     0.00           0.00        0
-------------------------------------------------------------------------------------------------------------------------------
PRATT                8010-00-853-1859     PAINT BLUE STRIP                                       0.00      35          0  CN
PAINT LOC          3       5     75     0.00           0.00        0
-------------------------------------------------------------------------------------------------------------------------------
AMERCOAT             8010-01-302-3608     PRIMER 150                      MIL-P-24441            0.00     111          0  5 GL
PAINT LOC          1       0      0     0.00           5.00 GL     0
-------------------------------------------------------------------------------------------------------------------------------
                     8010-00-297-0567     PAINT ENAMEL ALKYD LUSTER                             11.33       1          0  QT
PAINT LOCK         0       1      5     0.00           0.00        0
-------------------------------------------------------------------------------------------------------------------------------
                     8010-00-298-2295     PAINT GREEN STRIPE                                     0.00       4          0  CN
PAINT LOCK         1       5     15     0.00           0.00        0  00
-------------------------------------------------------------------------------------------------------------------------------
INTERNATIONAL PAINT  8010-00-410-8461     PRIMER WHITE EPOXY                                     0.00       3          0  CN
PAINT LOCK         0       2      5     0.00           5.00 GL     0
-------------------------------------------------------------------------------------------------------------------------------
                     8010-00-530-5559     PAINT PURPLE                                           0.00       8          0  CN
PAINT LOCK         2       5     20     0.00           5.00 GL     0
-------------------------------------------------------------------------------------------------------------------------------
```

```
                                                                          Price     Qty
umber         NSN                 Nomenclature                Military Spec.  Per I/S   On Hand   V/P  U/I
============= =================== =========================== ============= ======== =======   ===  =====
on    C/A Qty   Low   High  Weight I/S    Volume I/S   VOC  Remarks
====  =======   ====  ====  ==========    ==========   ===  ==================


AL SPECIALIST 8010-00-558-7026    PAINT THINNER                                 0.00      80        0  GL
LOCK        3      5     20    0.00          5.00 GL     0
---------------------------------------------------------------------------------------------------------
              8010-00-577-4739    PAINT WHITE F124                              0.00     119        0  GL
LOCK        9     20    100    0.00          5.00 GL     0
---------------------------------------------------------------------------------------------------------
 PAINT CO     8010-00-616-7488    PAINT YELLOW                                  0.00      18        0  CN
LOCK        1      5     30    0.00          1.00 GL     0
---------------------------------------------------------------------------------------------------------
              8010-00-815-2692    PAINT HITEMP ALUMINUM                         0.00      14        0  CN
LOCK        4      0      0    0.00          0.00        0
---------------------------------------------------------------------------------------------------------
 PAINT CO     8010-01-285-1328    PRIMER ZINC                                   0.00       4        0  CN
LOCK        0      2      5    0.00          5.00 GL     0
---------------------------------------------------------------------------------------------------------
              8010-01-344-5098    PAINT CLIPPER BLUE                          135.91       4        0  CN
LOCK        3      2      5    0.00          0.00        0
---------------------------------------------------------------------------------------------------------
F             8010-01-344-5120    PAINT ENAMEL HEAT RESIST                    296.25       1        0  CN
LOCK        0      1      5    0.00          0.00        0
---------------------------------------------------------------------------------------------------------
RD LABS       8010-01-344-5309    PAINT HAZE GREY             MIL-E-24635       0.00      63        0  CN
LOCK        2     10     50    0.00          5.00 GL     0
---------------------------------------------------------------------------------------------------------
              8010-01-344-5322    PAINT ENAMEL WHITE                            0.00      10        0  CN
OCK         2      5     20    0.00          5.00 GL     0
---------------------------------------------------------------------------------------------------------
D LAB         8010-01-344-6203    PAINT BLACK                 MIL-E-24635A      0.00      20        0  GL
OCK         2     10    100   32.00 OZ       1.00 GL     0 PAINT LOCKER
---------------------------------------------------------------------------------------------------------
              8010-01-344-6733    PAINT TERRACOTTA                              0.00       4        0  CN
OCK         3      2     10    0.00          0.00        0 00
---------------------------------------------------------------------------------------------------------
D LAB         8010-01-344-6703    PAINT BLACK                                   0.00      18        0  CN
OCK         0      5     20    0.00          5.00 GL     0
---------------------------------------------------------------------------------------------------------
T             8010-01-350-4727    PAINT DECK GREY                               0.00      92        0  CN
OCK         0      5     10    0.00          5.00 GL     0
---------------------------------------------------------------------------------------------------------
```

```
                                   Master list - Location Sequence , All Items
                                                   List All NSNs
                                                                                           Price      Qty
Part Number          NSN                  Nomenclature                   Military Spec.    Per I/S    On Hand    V/P   U/I
==================== ==================== ============================== ==============    ========   =======    ===   =====
Location     C/A Qty    Low    High Weight I/S    Volume I/S    VOC Remarks
==========   =======    ====    ==== ==========    ==========    === ==================


AMERCOAT             8010-01-350-4743     PRIMER WHITE EPOXY             MIL-P-2441             0.00      12         0 CN
PAINT LOCK         0       5     20     0.00          5.00 GL     0
-----------------------------------------------------------------------------------------------------------------------------
PRATT & LAMBERT      8030-00-165-8577     PRIMER FORMULA 117                                    0.00       9         0 CN
PAINT LOCK         0       5     20     0.00          5.00 GL     0
-----------------------------------------------------------------------------------------------------------------------------
                     8010-00-281-2075     PAINT DECK MAHOGONY                                   0.00      11         0 CN
PANIT LOK          3       0      0     9.00 LB       1.00 GL     0
-----------------------------------------------------------------------------------------------------------------------------
BATTERY ASSEMBLERS   6135-00-073-8939     BATTERIES, ELECTRIC                                   4.24     200         0 BATT
SHOP             200      50    100     4.00 OZ       0.01 QT     0  REINSP. 3/98  T7 TYPE II
-----------------------------------------------------------------------------------------------------------------------------
                     6135-00-835-7210     BATTERY, D SIZE                                       0.00      36         0 BATT
SHOP               0       0     10    16.00 OZ       0.50 QT     0  TYPE I UU
-----------------------------------------------------------------------------------------------------------------------------
AUSTINS              6810-00-598-7316     BLEACH CLO WHITE                                      9.41      10         0 BT
SHOP              10       5     20     9.00 LB       1.00 GL     0  00
-----------------------------------------------------------------------------------------------------------------------------
RH CARLSON CO        6850-00-880-7616     SILICONE COMPOUND              MIL-S-8660C            0.00      17         0
SHOP              17      17     30     1.00 OZ       1.00 GL     0  REINSPECT 04/97
-----------------------------------------------------------------------------------------------------------------------------
CANTOL INC           6850-00-N02-6371     THAT GREEN STUFF                                      0.00       5         0 BT
SHOP               5       5     10    32.00 OZ       1.00 QT     0  00
-----------------------------------------------------------------------------------------------------------------------------
                     7920-00-823-9818     NEVR DULL                      MIL-1-22590C           5.67       5         0 CN
SHOP               0       0      0    16.00 OZ       0.50 QT     0  TYPE II 00
-----------------------------------------------------------------------------------------------------------------------------
SOUTH WIN LTD        7930-00-184-9423     GLASS CLEANER LIQUID                                  0.00       5         0 BT
SHOP               5      10     30     4.00 OZ       0.25 QT     0  TYPE II T7
-----------------------------------------------------------------------------------------------------------------------------
                     7930-00-926-5280     GENERAL PURPOSE DETERGENT                             0.00       2         0 BT
SHOP               2      10     30    16.00 OZ       0.50 QT     0  TYPE II T7
-----------------------------------------------------------------------------------------------------------------------------
BIRSCH               7930-00-N03-3586     BLUE KNIGHT                                           0.00       8         0 BT
SHOP               8       5     20    16.00 OZ       0.50 QT     0  TYPE II 00
-----------------------------------------------------------------------------------------------------------------------------
                     8030-01-154-9247     BASE COMPOUND                  MIL-S-8802F            0.00       2         0
SHOP               2       1      2     1.00 LB       0.00 QT     0  TYPE 1 CL A- 1/2  REINSPECT 09/01/96
-----------------------------------------------------------------------------------------------------------------------------
```

```
                  H A Z A R D O U S  I N V E N T O R Y  C O N T R O L  S Y S T E M                  Page:    15
                           Master list - Location Sequence , All Items
                                        List All NSNs
                                                                             Price     Qty
er          NSN                  Nomenclature                  Military Spec.   Per I/S   On Hand   V/P  U/I
=========== =================== ============================= ==============   ========  =======   ===  =====
   C/A Qty    Low    High  Weight I/S    Volume I/S   VOC  Remarks
=  =======    ====   ====  ==========    ==========   ===  ==================

            8040-00-273-8716    ADHESIVE                      MM-A-121              0.00       1         0  CN
         1       1      5    8.00 OZ       0.25 QT     0  TYPE II T4 12 MONTHS REINSP 7/96
-----------------------------------------------------------------------------------------------------------

                                        Total Line Items:        183
                                        Total Cost:          9652.58
```

DOC IDENT | RI FROM | M & S | STOCK NUMBER: FSC 6810 NIIN 002124770 ADD | UNIT OF ISSUE DR | QUANTITY 2 | DOCUMENT NUMBER: SERV V REQUISITIONER 20632 DATE 5191 SERIAL 7CC3 | SUFFIX | SERV | SUPPLEMENTARY ADDRESS | SIGNAL | FUND | DISTRIBUTION | PROJECT | PRIORITY | REQ'D DEL DATE | ADVICE | RI

ET50002

SHIPPED FROM: A USS SAIPAN (LHA 2)

SHIP TO: B PWC NORFOLK 0-50

MARK FOR: C

PROJECT: D 95-15409-4

E

WAREHOUSE LOCATION: F

TYPE OF CARGO: G

UNIT PACK: H

UNIT WEIGHT: I

UNIT CUBE: J

U F C: K

N M F C: L

FREIGHT RATE: M

N

DOCUMENT DATE: O

MAT COND: P

QUANTITY: Q

R

S

SUBSTITUTE DATA (ITEM ORIGINALLY REQUESTED): T

FREIGHT CLASSIFICATION NOMENCLATURE: U 5.1 UN 1748 PG II D001 V

W WASTE-

ITEM NOMENCLATURE: X CALCIUM HYPOCHLORITE Y

SHIPPERS USE

SELECTED BY AND DATE: 1

TYPE OF CONTAINER(S): 2 DR

TOTAL WEIGHT: 3

PACKED BY AND DATE: 4

NO. OF CONTAINERS: 5 2

TOTAL CUBE: 6

RECEIVERS USE

RECEIVED BY AND DATE: 7 7-11-95

INSPECTED BY AND DATE: 8

WAREHOUSED BY AND DATE: 9 APPROVED FOR

WAREHOUSE LOCATION: 10 TRANSFER

REMARKS: AA | BB | CC | DD

USN

EE BY DIRECTIO

FIRST DESTINATION ADDRESS: 11 QX15GC/DR

DATE SHIPPED: 12

FF

GG

13 TRANSPORTATION CHARGEABLE TO

14 B/LADING, AWB OR RECEIVER'S SIGNATURE (AND DATE)

15 RECEIVER'S DOCUMENT NUMBER

DD Form 1348-1, JUL 91
S/N 0102-LF-013-7500

PREVIOUS EDITION MAY BE USED

DOD SINGLE LINE ITEM RELEASE/RECEIPT

DOC IDENT | RI FROM | M & S | STOCK NUMBER: FSC 8040 NIIN 010780737 ADD | UNIT OF ISSUE CN | QUANTITY 01 | DOCUMENT NUMBER: SERV V REQUISITIONER 20632 DATE 5191 SERIAL 7CB5 | SUFFIX | SERV | SUPPLEMENTARY ADDRESS | SIGNAL | FUND | DISTRIBUTION | PROJECT | PRIORITY | REQ'D DEL DATE | ADVICE | RI

SHIPPED FROM: A USS SAIPAN (LHA-2)

SHIP TO: B PWC NORFOLK

MARK FOR: C

PROJECT: D 95-31932

E

WAREHOUSE LOCATION: F

TYPE OF CARGO: G

UNIT PACK: H

UNIT WEIGHT: I

UNIT CUBE: J

U F C: K

N M F C: L

FREIGHT RATE: M

N

DOCUMENT DATE: O

MAT COND: P

QUANTITY: Q

R

S

SUBSTITUTE DATA (ITEM ORIGINALLY REQUESTED): T

FREIGHT CLASSIFICATION NOMENCLATURE: WASTE ADHESIVE, 3, UN1133, PG II, D001

W

ITEM NOMENCLATURE: X MULTIPURPOSE ADHESIVE Y

SHIPPERS USE

SELECTED BY AND DATE: 1 1 x 1 gal

TYPE OF CONTAINER(S): 2 CN

TOTAL WEIGHT: 3

PACKED BY AND DATE: 4

NO. OF CONTAINERS: 5 01

TOTAL CUBE: 6

RECEIVERS USE

RECEIVED BY AND DATE: 7 7-10-95 Joseph Quits

INSPECTED BY AND DATE: 8

WAREHOUSED BY AND DATE: 9 APPROVED FOR

WAREHOUSE LOCATION: 10 TRANSFER

REMARKS: AA USED/R | BB | CC | DD

John Auccio 1S3 USN

EE BY DIRECTIO

FIRST DESTINATION ADDRESS: 11

DATE SHIPPED: 12

FF

GG

13 TRANSPORTATION CHARGEABLE TO

14 B/LADING, AWB OR RECEIVER'S SIGNATURE (AND DATE)

15 RECEIVER'S DOCUMENT NUMBER

DD Form 1348-1, JUL 91
S/N 0102-LF-013-7500

PREVIOUS EDITION MAY BE USED

DOD SINGLE LINE ITEM RELEASE/RECEIPT

STOCK NUMBER: FSC 6810 NIIN 012598231 ADD
UNIT OF ISSUE: BT
QUANTITY: 01
SERV: V
DOCUMENT NUMBER: REQUISITIONER 20633 DATE 5191 SERIAL 7CC2
SUFFIX
SERV
SUPPLEMENTARY ADDRESS
SIGNAL
FUND
DISTRIBUTION
PROJECT
PRIORITY
REQ'D DEL DATE
ADVICE
R
UNIT PRICE DOLLARS CTS

SAIPAN (LHA-2)
SHIP TO: PWC NORFOLK
B
MARK FOR
C
PROJECT: 95-31934
D
TOTAL PRICE DOLLARS CTS
E

CATION
TYPE OF CARGO G
UNIT PACK H
UNIT WEIGHT I
UNIT CUBE J
UFC K
NMFC L
FREIGHT RATE M
N
DOCUMENT DATE O
MAT COND P
QUANTITY Q
R
S

A (ITEM ORIGINALLY REQUESTED)
FREIGHT CLASSIFICATION NOMENCLATURE: U NON - REGULATED
V
ITEM NOMENCLATURE: X METHYL
Y

BY AND DATE: 1 502 BOTTLE
TYPE OF CONTAINER(S): 2 BT
TOTAL WEIGHT: 3
RECEIVER'S USE
RECEIVED BY AND DATE: 7
INSPECTED BY AND DATE: 8
AND DATE
NO. OF CONTAINERS: 5 01
TOTAL CUBE: 6
WAREHOUSED BY AND DATE
WAREHOUSE LOCATION
9 APPROVED FOR TRANSFER
John Fuccio IS3 USN
BY DIRECTION

ED | R BB
CC
DD
ON ADDRESS
DATE SHIPPED: 12
FF
GG
TION CHARGEABLE TO
14 B/LADING, AWB, OR RECEIVER'S SIGNATURE (AND DATE)
15 RECEIVER'S DOCUMENT NUMBER

JUL 91
3-7500
PREVIOUS EDITION MAY BE USED
DOD SINGLE LINE ITEM RELEASE/RECEIPT DOCUMENT
2

STOCK NUMBER: FSC 6685 NIIN 007528240 ADD
UNIT OF ISSUE: CN
QUANTITY: 001
SERV: V
DOCUMENT NUMBER: REQUISITIONER 20633 DATE 5191 SERIAL 7087
SUFFIX
SERV
SUPPLEMENTARY ADDRESS
SIGNAL
FUND
DISTRIBUTION
PROJECT
PRIORITY
REQ'D DEL DATE
ADVICE
RI
UNIT PRICE DOLLARS CTS

SAIPAN (LHA-2)
SHIP TO: PWC NORFOLK
B
MARK FOR
C
PROJECT: 95-31933
D
TOTAL PRICE DOLLARS CTS
E

TION
TYPE OF CARGO G
UNIT PACK H
UNIT WEIGHT I
UNIT CUBE J
UFC K
NMFC L
FREIGHT RATE M
N
DOCUMENT DATE O
MAT COND P
QUANTITY Q
R
S

(ITEM ORIGINALLY REQUESTED)
FREIGHT CLASSIFICATION NOMENCLATURE: U NON - REGULATED
V
ITEM NOMENCLATURE: X INDICATOR HUMIDITY CARD
Y

AND DATE: PINT
TYPE OF CONTAINER(S): 2 CN
TOTAL WEIGHT: 3
RECEIVER'S USE
RECEIVED BY AND DATE: 7-10-95 Joseph Annito
INSPECTED BY AND DATE: 8
ND DATE
NO. OF CONTAINERS: 5 01
TOTAL CUBE: 6
WAREHOUSED BY AND DATE
WAREHOUSE LOCATION
9 APPROVED FOR TRANSFER
John Fuccio IS3 USN
EE BY DIRECTION

ED | BB R
CC
DD
ADDRESS
DATE SHIPPED: 12
FF
GG
N CHARGEABLE TO
14 B/LADING, AWB, OR RECEIVER'S SIGNATURE (AND DATE)
15 RECEIVER'S DOCUMENT NUMBER

JUL 91
7500
PREVIOUS EDITION MAY BE USED
DOD SINGLE LINE ITEM RELEASE/RECEIPT DOCUMENT
2

DOC IDENT	RI FROM	M & S	FSC	NIIN	ADD	UNIT OF ISSUE	QUANTITY	SERV	REQUISITIONER	DATE	SERIAL	SUFFIX	SERV	SUPPLEMENTARY ADDRESS	SIGNAL	FUND	DISTRIBUTION	PROJECT	PRIORITY	REQ'D DEL DATE	ADVICE	RI
			6750	005441529		BT	8 013	V	20632	5191	7086											

SHIPPED FROM: USS SAIPAN (LHA-2)
SHIP TO: PWC NORFOLK
MARK FOR:
PROJECT: 95 - 31937

WAREHOUSE LOCATION | TYPE OF CARGO | UNIT PACK | UNIT WEIGHT | UNIT CUBE | UFC | NMFC | FREIGHT RATE | DOCUMENT DATE | MAT COND | QUANTITY

SUBSTITUTE DATA (ITEM ORIGINALLY REQUESTED)
FREIGHT CLASSIFICATION NOMENCLATURE: CORROSIVE LIQUID NOS (AKLINE INGREDIENTS) 8, UN1760 PGII, Doc
ITEM NOMENCLATURE: KODAK FIXER & REPLENISHER

SELECTED BY AND DATE: 8X 8OZ BT
TYPE OF CONTAINER(S): BT
TOTAL WEIGHT:
PACKED BY AND DATE:
NO. OF CONTAINERS: 8 013
TOTAL CUBE:
RECEIVED BY AND DATE: 7-10-95 Joseph Amito
INSPECTED BY AND DATE:
WAREHOUSED BY AND DATE:
WAREHOUSE LOCATION:

APPROVED FOR TRANSFER
John Fucero IS3 USN
BY DIRECTION

REMARKS: USED / RP
POST DESTINATION ADDRESS
DATE SHIPPED
TRANSPORTATION CHARGEABLE TO
14 B/LADING, AWB, OR RECEIVER'S SIGNATURE (AND DATE)
15 RECEIVER'S DOCUMENT NUMBER

DD Form 1348-1, JUL 91
S/N 0102-LF-013-7500

PREVIOUS EDITION MAY BE USED

DOD SINGLE LINE ITEM RELEASE/RECEIPT DOCU

DOC IDENT	RI FROM	M & S	FSC	NIIN	ADD	UNIT OF ISSUE	QUANTITY	SERV	REQUISITIONER	DATE	SERIAL	SUFFIX	SERV	SUPPLEMENTARY ADDRESS	SIGNAL	FUND	DISTRIBUTION	PROJECT	PRIORITY	REQ'D DEL DATE	ADVICE	RI	UNIT PRICE DOLLARS
			6525	00D000667		BT	008	V	20632	5191	7089												

SHIPPED FROM: USS SAIPAN (LHA-2)
SHIP TO: PWC NORFOLK
MARK FOR:
PROJECT: 95 -31935
TOTAL PRICE DOLLARS

WAREHOUSE LOCATION | TYPE OF CARGO | UNIT PACK | UNIT WEIGHT | UNIT CUBE | UFC | NMFC | FREIGHT RATE | DOCUMENT DATE | MAT COND | QUANTITY

SUBSTITUTE DATA (ITEM ORIGINALLY REQUESTED)
FREIGHT CLASSIFICATION NOMENCLATURE: NON - REGULATED
ITEM NOMENCLATURE: FIXER & REPLENISHER PART A & B X-OMAT

SELECTED BY AND DATE: 8 x 1 QUART
TYPE OF CONTAINER(S): 08
TOTAL WEIGHT:
PACKED BY AND DATE:
NO. OF CONTAINERS: BT
TOTAL CUBE:
RECEIVED BY AND DATE: 7-10-95 Joseph Amito
INSPECTED BY AND DATE:
WAREHOUSED BY AND DATE:
WAREHOUSE LOCATION:

APPROVED FOR TRANSFER
John Fucero IS3 USN
BY DIRECTION

REMARKS: USED / RP
POST DESTINATION ADDRESS
DATE SHIPPED
TRANSPORTATION CHARGEABLE TO
14 B/LADING, AWB, OR RECEIVER'S SIGNATURE (AND DATE)
15 RECEIVER'S DOCUMENT NUMBER

DD Form 1348-1, JUL 91
S/N 0102-LF-013-7500

PREVIOUS EDITION MAY BE USED

DOD SINGLE LINE ITEM RELEASE/RECEIPT DOC

M & S | STOCK NUMBER: FSC 6750 NIIN 010228410 ADD
UNIT OF ISSUE: BT
QUANTITY: 6 00~~3~~
DOCUMENT NUMBER: SERV V REQUISITIONER 20632 DATE 5191 SERIAL 70C0
SUFFIX | SERV | SUPPLEMENTARY ADDRESS | SIGNAL | FUND | DISTRIBUTION | PROJECT | PRIORITY | REQ'D DEL DATE | ADVICE | R

SAIPAN (LHA-2)
SHIP TO: PWC NORFOLK
MARK FOR:
PROJECT: 95-31938

CATION | TYPE OF CARGO G | UNIT PACK H | UNIT WEIGHT I | UNIT CUBE J | UFC K | NMFC L | FREIGHT RATE M | N | DOCUMENT DATE O | MAT COND P | QUANTITY Q | R | S

TA (ITEM ORIGINALLY REQUESTED)
FREIGHT CLASSIFICATION NOMENCLATURE: NON-REGULATED / PH 5.0 - 7.0
ITEM NOMENCLATURE: x BLEACH II PART A y

BY AND DATE: X 1QUART
TYPE OF CONTAINER(S) 2: 6 0~~3~~
TOTAL WEIGHT 3:
RECEIVERS USE
RECEIVED BY AND DATE 7: 7-10-95 Joseph Genito
INSPECTED BY AND DATE 8:
Y AND DATE:
NO OF CONTAINERS 5: BT
TOTAL CUBE 6:
WAREHOUSED BY AND DATE 9:
WAREHOUSE LOCATION 10:

ED/RP BB
CC
DD
APPROVED FOR TRANSFER
John Tucillo IS3 USN
BY DIRECTION EE

ION ADDRESS
DATE SHIPPED 12
FF
GG
TION CHARGEABLE TO
14 B/LADING AWB OR RECEIVER'S SIGNATURE (AND DATE)
15 RECEIVER'S DOCUMENT NUMBER

1, JUL 91
3-7500
PREVIOUS EDITION MAY BE USED
DOD SINGLE LINE ITEM RELEASE/RECEIPT DOCUMENT
2

M & S | STOCK NUMBER: FSC 6810 NIIN 00 264 6525 ADD
UNIT OF ISSUE: BT
QUANTITY: 0001
DOCUMENT NUMBER: SERV V REQUISITIONER 20632 DATE 5188 SERIAL 70B1
SUFFIX | SERV | SUPPLEMENTARY ADDRESS | SIGNAL | FUND | DISTRIBUTION | PROJECT | PRIORITY | REQ'D DEL DATE | ADVICE | R. | UNIT PRICE DOLLARS CTS

SS SAIPAN
LHA 2
V20632
SHIP TO: PWC NORVA
GP-56
B
MARK FOR: C
PROJECT: D
TOTAL PRICE DOLLARS CTS
S

CATION | TYPE OF CARGO G | UNIT PACK H | UNIT WEIGHT I | UNIT CUBE J | UFC K | NMFC L | FREIGHT RATE M | N | DOCUMENT DATE O | MAT COND P | QUANTITY Q | R | S

A (ITEM ORIGINALLY REQUESTED)
FREIGHT CLASSIFICATION NOMENCLATURE: U NON REG V
ITEM NOMENCLATURE: x POTASSIUM DICHROMATE y

BY AND DATE:
TYPE OF CONTAINER(S) 2: BT
TOTAL WEIGHT 3: 5LB
RECEIVERS USE
RECEIVED BY AND DATE 7: 7-7-95
INSPECTED BY AND DATE 8:
AND DATE:
NO OF CONTAINERS 5: 1
TOTAL CUBE 6:
WAREHOUSED BY AND DATE 9:
WAREHOUSE LOCATION 10:

1 X 5LB BB
CC
DD
APPROVED F/ TRANSFER
AO1 Vineyard EE

ON ADDRESS
DATE SHIPPED 12
FF
GG
TION CHARGEABLE TO
14 B/LADING, AWB, OR RECEIVER'S SIGNATURE (AND DATE)
15 RECEIVER'S DOCUMENT NUMBER

1, JUL 91
3-7500
PREVIOUS EDITION MAY BE USED
DOD SINGLE LINE ITEM RELEASE/RECEIPT DOCUMENT
2

FSC	NIIN	ADD	UNIT OF ISSUE	QUANTITY	SERV	REQUISITIONER	DATE	SERIAL	SUFFIX	SUPPLEMENTARY ADDRESS	SIGNAL	FUND	DISTRIBUTION	PROJECT	PRIORITY	REQ'D DEL DATE	ADVICE	RI	UNIT PRICE DOLLARS
6850	00 852 6569		BT	0001	V	20632	5188	70BJ											

SHIPPED FROM: USS SAIPAN LHA2
V20632

SHIP TO: PWC NORVA
Q-50

MARK FOR:

PROJECT:

WAREHOUSE LOCATION | TYPE OF CARGO | UNIT PACK | UNIT WEIGHT | UNIT CUBE | UFC | NMFC | FREIGHT RATE | DOCUMENT DATE | MAT COND | QUANTITY

SUBSTITUTE DATA (ITEM ORIGINALLY REQUESTED)

FREIGHT CLASSIFICATION NOMENCLATURE: NON REG

ITEM NOMENCLATURE: ANSTAC-2M CLEANING AGENT

1 SELECTED BY AND DATE	2 TYPE OF CONTAINER(S): BT	3 TOTAL WEIGHT
4 PACKED BY AND DATE	5 NO OF CONTAINERS: 1	6 TOTAL CUBE

RECEIVERS USE

7 RECEIVED BY AND DATE: 7-7-95 Jerry Brooks	8 INSPECTED BY AND DATE
9 WAREHOUSED BY AND DATE	10 WAREHOUSE LOCATION

MARKS: 1X1 QT

APPROVED F/TRANSFER
AO' Vineyard

FIRST DESTINATION ADDRESS

12 DATE SHIPPED

TRANSPORTATION CHARGEABLE TO

14 B/LADING, AWB, OR RECEIVER'S SIGNATURE (AND DATE)

15 RECEIVER'S DOCUMENT NUMBER

Form 1348-1, JUL 91
0102-LF-013-7500

PREVIOUS EDITION MAY BE USED

DOD SINGLE LINE ITEM RELEASE/RECEIPT DOCU

FSC	NIIN	ADD	UNIT OF ISSUE	QUANTITY	SERV	REQUISITIONER	DATE	SERIAL	SUFFIX	SUPPLEMENTARY ADDRESS	SIGNAL	FUND	DISTRIBUTION	PROJECT	PRIORITY	REQ'D DEL DATE	ADVICE	RI	UNIT PRICE DOLLARS
4240	00 174 1365		EA	50	V	20632	5188	70B4											

SHIPPED FROM: USS SAIPAN LHA2
V20632

SHIP TO: PWC NORVA
Q-56

MARK FOR:

PROJECT:

WAREHOUSE LOCATION | TYPE OF CARGO | UNIT PACK | UNIT WEIGHT | UNIT CUBE | UFC | NMFC | FREIGHT RATE | DOCUMENT DATE | MAT COND | QUANTITY

SUBSTITUTE DATA (ITEM ORIGINALLY REQUESTED)

FREIGHT CLASSIFICATION NOMENCLATURE: OXIDIZING SUBSTANCE SOLID CORROSIVE N.O.S

ITEM NOMENCLATURE: OBA CANISTER 5.1 UN 3085 PG II Barium Peroxide

1 SELECTED BY AND DATE	2 TYPE OF CONTAINER(S): CANISTER	3 TOTAL WEIGHT
4 PACKED BY AND DATE	5 NO OF CONTAINERS: ~~3~~ 5	6 TOTAL CUBE

RECEIVERS USE

7 RECEIVED BY AND DATE: Jerry Brooks	8 INSPECTED BY AND DATE: SODIUM CHLORATE
9 WAREHOUSED BY AND DATE	10 WAREHOUSE LOCATION

MARKS: 1X5GL

APPROVED F/TRANSFER
DO' Vineyard

FIRST DESTINATION ADDRESS

12 DATE SHIPPED: RP

TRANSPORTATION CHARGEABLE TO

14 B/LADING, AWB, OR RECEIVER'S SIGNATURE (AND DATE)

15 RECEIVER'S DOCUMENT NUMBER

Form 1348-1, JUL 91
0102-LF-013-7500

PREVIOUS EDITION MAY BE USED

DOD SINGLE LINE ITEM RELEASE/RECEIPT DOC

STOCK NUMBER: FSC / NIIN / ADD — UNIT OF ISSUE — QUANTITY — DOCUMENT NUMBER: SERV / REQUISITIONER / DATE / SERIAL — SUFFIX — SERV — SUPPLEMENTARY ADDRESS — SIGNAL — FUND — DISTRIBUTION — PROJECT — PRIORITY — REQ'D DEL DATE

6810 00 527 2476 BT 002 V20632 5188 70B0

USS SAIPAN
LHA 2
V20632

SHIP TO: PWC NORVA
G 50

MARK FOR:
PROJECT:

TYPE OF CARGO — UNIT PACK — UNIT WEIGHT — UNIT CUBE — UFC — NMFC — FREIGHT RATE — DOCUMENT DATE — MAT COND — QUANTITY

FREIGHT CLASSIFICATION NOMENCLATURE: Ammonia Solution 8 UN 2672 PG II DOC

ITEM NOMENCLATURE: AMMONIUM HYDROXIDE

TYPE OF CONTAINER(S): BT
TOTAL WEIGHT:
NO. OF CONTAINERS: 2
TOTAL CUBE:

RECEIVERS USE
RECEIVED BY AND DATE: 7-7-95
INSPECTED BY AND DATE:
WAREHOUSED BY AND DATE:
WAREHOUSE LOCATION:

1 QT

APPROVED F/TRANSFER
AO' Vineyard

DATE SHIPPED:

14 B/LADING, AWB OR RECEIVER'S SIGNATURE (AND DATE)

15 RECEIVER'S DOCUMENT NUMBER

-1, JUL 91
113-7500

PREVIOUS EDITION MAY BE USED

DOD SINGLE LINE ITEM RELEASE/RECEIPT DOCUMENT

2

M & S — STOCK NUMBER: FSC / NIIN / ADD — UNIT OF ISSUE — QUANTITY — DOCUMENT NUMBER: SERV / REQUISITIONER / DATE / SERIAL — SUFFIX — SERV — SUPPLEMENTARY ADDRESS — SIGNAL — FUND — DISTRIBUTION — PROJECT — PRIORITY — REQ'D DEL DATE — ADVICE — RI — UNIT PRICE: DOLLARS / CTS

6850-01293 7736 CN 00007 V20632 5188 70A9

USS Saipan (LHA)
V20632

SHIP TO: PWC
G 50

MARK FOR:
PROJECT:
TOTAL PRICE: DOLLARS / CTS

TYPE OF CARGO — UNIT PACK — UNIT WEIGHT — UNIT CUBE — UFC — NMFC — FREIGHT RATE — DOCUMENT DATE — MAT COND — QUANTITY

FREIGHT CLASSIFICATION NOMENCLATURE: Flammable liquid NOS 3 UN1993 PG II DOC

ITEM NOMENCLATURE: GLAZE REMOVER Petroleum [illegible]

TYPE OF CONTAINER(S): CN
TOTAL WEIGHT:
NO. OF CONTAINERS: 2
TOTAL CUBE:

RECEIVERS USE
RECEIVED BY AND DATE: 7-7-95
INSPECTED BY AND DATE:
WAREHOUSED BY AND DATE:
WAREHOUSE LOCATION:

GL

Approved For Transfer
AO' Vineyard

DATE SHIPPED: RP

14 B/LADING, AWB OR RECEIVER'S SIGNATURE (AND DATE)

15 RECEIVER'S DOCUMENT NUMBER

JUL 91
7500

PREVIOUS EDITION MAY BE USED

DOD SINGLE LINE ITEM RELEASE/RECEIPT DOCUMENT

2

DOC IDENT | RI FROM | M & S | STOCK NUMBER: FSC NIIN ADD | UNIT OF ISSUE | QUANTITY | DOCUMENT NUMBER: SERV REQUISITIONER DATE SERIAL | SUFFIX | SERV | SUPPLEMENTARY ADDRESS | SIGNAL | FUND | DISTRIBUTION | PROJECT | PRIORITY | REQ'D DEL DATE | ADVICE | RI | UNIT PRICE DOLLARS

9160 00-263-8757 0000 V20632 5187 7027

SHIPPED FROM: USS SAIPAN LHA2

V20632

A

SHIP TO: PWC

Q-50

B

MARK FOR: -

C

PROJECT

D

TOTAL PRICE DOLLARS

E

WAREHOUSE LOCATION F | TYPE OF CARGO G | UNIT PACK H | UNIT WEIGHT I | UNIT CUBE J | UFC K | NMFC L | FREIGHT RATE M | N | DOCUMENT DATE O | MAT COND P | QUANTITY Q | R | S

SUBSTITUTE DATA (ITEM ORIGINALLY REQUESTED) T

FREIGHT CLASSIFICATION NOMENCLATURE U: NON RIC

V

ITEM NOMENCLATURE X: Tallow GREASE

Y

SHIPPERS USE

1 SELECTED BY AND DATE

2 TYPE OF CONTAINER(S): CN

3 TOTAL WEIGHT

4 PACKED BY AND DATE

5 NO OF CONTAINERS: 1

6 TOTAL CUBE

RECEIVERS USE

7 RECEIVED BY AND DATE: 7 7 95

8 INSPECTED BY AND DATE

9 WAREHOUSED BY AND DATE

10 WAREHOUSE LOCATION

REMARKS AA: 1 X 5 LB

BB

CC

DD: Approved FOR TRANSFER

EE: AZ

11 FIRST DESTINATION ADDRESS

12 DATE SHIPPED

FF

GG

13 TRANSPORTATION CHARGEABLE TO

14 B/LADING AWB OR RECEIVER'S SIGNATURE (AND DATE)

15 RECEIVER'S DOCUMENT NUMBER

DD Form 1348-1, JUL 91
S/N 0102-LF-013-7500

PREVIOUS EDITION MAY BE USED

DOD SINGLE LINE ITEM RELEASE/RECEIPT DOCU

DOC IDENT | RI FROM | M & S | STOCK NUMBER: FSC NIIN ADD | UNIT OF ISSUE | QUANTITY | DOCUMENT NUMBER: SERV REQUISITIONER DATE SERIAL | SUFFIX | SERV | SUPPLEMENTARY ADDRESS | SIGNAL | FUND | DISTRIBUTION | PROJECT | PRIORITY | REQ'D DEL DATE | ADVICE | RI | UNIT PRICE DOLLARS

6750 00 201 1199 BT 00 3 V20632 5188 7032

SHIPPED FROM: USS SAIPAN LHA2

V20632

A

SHIP TO: PWC NORVA

B

MARK FOR

C

PROJECT

D

TOTAL PRICE DOLLARS

E

WAREHOUSE LOCATION F | TYPE OF CARGO G | UNIT PACK H | UNIT WEIGHT I | UNIT CUBE J | UFC K | NMFC L | FREIGHT RATE M | N | DOCUMENT DATE O | MAT COND P | QUANTITY Q | R | S

SUBSTITUTE DATA (ITEM ORIGINALLY REQUESTED) T

FREIGHT CLASSIFICATION NOMENCLATURE U: CORROSIVE LIQUID N.O.S. 8 UN1760 PG II DOCZ

ITEM NOMENCLATURE X: FIXER/REPLENISHER SULFURIC ACID

W

SHIPPERS USE

1 SELECTED BY AND DATE

2 TYPE OF CONTAINER(S): BT

3 TOTAL WEIGHT

4 PACKED BY AND DATE

5 NO OF CONTAINERS: 3

6 TOTAL CUBE

RECEIVERS USE

7 RECEIVED BY AND DATE: 7.7.95

8 INSPECTED BY AND DATE: -

9 WAREHOUSED BY AND DATE

10 WAREHOUSE LOCATION

REMARKS AA: 3 X 5 OZ

BB

CC

DD: APPROVED F/ TRANSFER
AO Vineyard

EE

11 FIRST DESTINATION ADDRESS

12 DATE SHIPPED

FF

GG

13 TRANSPORTATION CHARGEABLE TO

14 B/LADING AWB, OR RECEIVER'S SIGNATURE (AND DATE)

15 RECEIVER'S DOCUMENT NUMBER

DOD SINGLE LINE ITEM RELEASE/RECEIPT DO

DD Form 1348-1, JUL 91
S/N 0102-LF-013-7500

PREVIOUS EDITION MAY BE USED

STOCK NUMBER
FSC: 9150
NIIN
ADD
UNIT OF ISSUE
QUANTITY: 10
DOCUMENT NUMBER
SERV REQUISITIONER: V20632
DATE: 5187
SERIAL
SUFFIX
SERV
SUPPLEMENTARY ADDRESS
SIGNAL
FUND
DISTRIBUTION
PROJECT
PRIORITY
REQ'D DEL DATE
ADVICE
R
UNIT PRICE DOLLARS CTS

SAIPAN LHA2
20632

SHIP TO: PWC NORVA
B
MARK FOR
C
PROJECT
D
TOTAL PRICE DOLLARS CTS
E

ION
TYPE OF CARGO G
UNIT PACK H
UNIT WEIGHT I
UNIT CUBE J
UFC K
NMFC L
FREIGHT RATE M
N
DOCUMENT DATE O
MAT COND P
QUANTITY Q
P
S

TEM ORIGINALLY REQUESTED)
FREIGHT CLASSIFICATION NOMENCLATURE
U
V
ITEM NOMENCLATURE
X Oily Rags
Y

AND DATE
TYPE OF CONTAINER(S) 2: BG
TOTAL WEIGHT 3
RECEIVERS USE
RECEIVED BY AND DATE 7: 7-6-95
INSPECTED BY AND DATE 8
ND DATE
NO. OF CONTAINERS 5: 10
TOTAL CUBE 6
WAREHOUSED BY AND DATE 9
WAREHOUSE LOCATION 10

BB
CC
DD Approved FOR TRANSFER
EE AZ3
ADDRESS
DATE SHIPPED 12
FF
GG
CHARGEABLE TO
14 B/LADING, AWB, OR RECEIVER'S SIGNATURE (AND DATE)
15 RECEIVER'S DOCUMENT NUMBER

UL 91
500
PREVIOUS EDITION MAY BE USED
DOD SINGLE LINE ITEM RELEASE/RECEIPT DOCUMENT
3

STOCK NUMBER
FSC: 9150
NIIN: 00-223-4604
ADD
UNIT OF ISSUE
QUANTITY
DOCUMENT NUMBER
SERV REQUISITIONER: V20632
DATE: 5187
SERIAL: 7026
SUFFIX
SERV
SUPPLEMENTARY ADDRESS
SIGNAL
FUND
DISTRIBUTION
PROJECT
PRIORITY
REQ'D DEL DATE
ADVICE
RI
UNIT PRICE DOLLARS CTS

SAIPAN LHA2
20632

SHIP TO: PWC G 56 NORVA
B
MARK FOR
C
PROJECT
D
TOTAL PRICE DOLLARS CTS
E

ON
TYPE OF CARGO G
UNIT PACK H
UNIT WEIGHT I
UNIT CUBE J
UFC K
NMFC L
FREIGHT RATE M
N
DOCUMENT DATE O
MAT COND P
QUANTITY Q
R
S

EM ORIGINALLY REQUESTED)
FREIGHT CLASSIFICATION NOMENCLATURE
U NON REG
V
ITEM NOMENCLATURE
X Grease MoLy DcDen
Y

ND DATE
TYPE OF CONTAINER(S) 2: CN
TOTAL WEIGHT 3
RECEIVERS USE
RECEIVED BY AND DATE: 7-7-95 Lorenzo B
INSPECTED BY AND DATE
DATE
NO. OF CONTAINERS 5: 1
TOTAL CUBE 6
WAREHOUSED BY AND DATE 9
WAREHOUSE LOCATION 10

GL
BB
CC
DD Approved FOR Transfer
EE AZ3
DDRESS
DATE SHIPPED 12
FF
GG
CHARGEABLE TO
14 B/LADING, AWB, OR RECEIVER'S SIGNATURE (AND DATE)
15 RECEIVER'S DOCUMENT NUMBER

L 91
00
PREVIOUS EDITION MAY BE USED
DOD SINGLE LINE ITEM RELEASE RECEIPT DOCUMENT
2

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73

OC ENT	RI FROM	M & S	STOCK NUMBER FSC	NIIN	ADD	UNIT OF ISSUE	QUANTITY	SERV	DOCUMENT NUMBER REQUISITIONER	DATE	SERIAL	SUFFIX	SERV	SUPPLEMENTARY ADDRESS	SIGNAL	FUND	DISTRIBUTION	PROJECT	PRIORITY	REQ'D DEL DATE	ADVICE	RI	DOLLARS
			6850-002646573			CN	00001		V20632	5181	7013												

IPPED FROM: USS Saipan (LHA-2) V20632

SHIP TO: PWC NORVA B

MARK FOR: C

PROJECT: 95-15325 D

TOTAL PR DOLLARS: E

AREHOUSE LOCATION | TYPE OF CARGO G | UNIT PACK H | UNIT WEIGHT I | UNIT CUBE J | UFC K | NMFC L | FREIGHT RATE M | N | DOCUMENT DATE O | MAT COND P | QUANTITY Q | R | S

UBSTITUTE DATA (ITEM ORIGINALLY REQUESTED)

FREIGHT CLASSIFICATION NOMENCLATURE: U NON REG V

ITEM NOMENCLATURE: X DESSICCANT ACTIVATED Y

USE: SELECTED BY AND DATE 1 | TYPE OF CONTAINER(S) 2 CN | TOTAL WEIGHT 3

PACKED BY AND DATE 4 | NO. OF CONTAINERS 5 1 | TOTAL CUBE 6

RECEIVERS USE: RECEIVED BY AND DATE 7 7-6-95 | INSPECTED BY AND DATE 8

WAREHOUSED BY AND DATE 9 | WAREHOUSE LOCATION 10

EMARKS: A | BB | CC | DD APPROVED FOR TRANSFER | EE

RST DESTINATION ADDRESS | DATE SHIPPED 12 | FF | GG

3 TRANSPORTATION CHARGEABLE TO | 14 B/LADING, AWB, OR RECEIVER'S SIGNATURE (AND DATE) | 15 RECEIVER'S DOCUMENT NUMBER

) Form 1348-1, JUL 91
N 0102-LF-013-7500

PREVIOUS EDITION MAY BE USED

DOD SINGLE LINE ITEM RELEASE/RECEIPT DOCU

---

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73

OC ENT	RI FROM	M & S	STOCK NUMBER FSC	NIIN	ADD	UNIT OF ISSUE	QUANTITY	SERV	DOCUMENT NUMBER REQUISITIONER	DATE	SERIAL	SUFFIX	SERV	SUPPLEMENTARY ADDRESS	SIGNAL	FUND	DISTRIBUTION	PROJECT	PRIORITY	REQ'D DEL DATE	ADVICE	RI	DOLLARS
			6810-00107-1510			CN	00001		V20632														

IPPED FROM: USS Saipan (LHA-2) V20632

SHIP TO: PWC Q-50 B

MARK FOR: C

PROJECT: D

TOTAL PR DOLLARS: E

AREHOUSE LOCATION | TYPE OF CARGO G | UNIT PACK H | UNIT WEIGHT I | UNIT CUBE J | UFC K | NMFC L | FREIGHT RATE M | N | DOCUMENT DATE O | MAT COND P | QUANTITY Q | P | S

UBSTITUTE DATA (ITEM ORIGINALLY REQUESTED)

FREIGHT CLASSIFICATION NOMENCLATURE: U V

ITEM NOMENCLATURE: X WATER DISTILLED/DEIONIZED

USE: SELECTED BY AND DATE 1 | TYPE OF CONTAINER(S) 2 CN | TOTAL WEIGHT 3

PACKED BY AND DATE 4 | NO. OF CONTAINERS 5 1 | TOTAL CUBE 6

RECEIVERS USE: RECEIVED BY AND DATE 7 7-6-95 | INSPECTED BY AND DATE 8

WAREHOUSED BY AND DATE 9 | WAREHOUSE LOCATION 10

EMARKS: 1X5GL | BB | CC | DD APPROVED FOR TRANSFER | EE

RST DESTINATION ADDRESS | DATE SHIPPED 12 | FF | GG

TRANSPORTATION CHARGEABLE TO | 14 B/LADING, AWB, OR RECEIVER'S SIGNATURE (AND DATE) | 15 RECEIVER'S DOCUMENT NUMBER

) Form 1348-1, JUL 91
N 0102-LF-013-7500

PREVIOUS EDITION MAY BE USED

DOD SINGLE LINE ITEM RELEASE/RECEIPT DOCU

STOCK NUMBER: FSC | NIIN | ADD — UNIT OF ISSUE — QUANTITY — DOCUMENT NUMBER: SERV | REQUISITIONER | DATE | SERIAL — SUFFIX — SERV — SUPPLEMENTARY ADDRESS — SIGNAL — FUND — DISTRIBUTION — PROJECT — PRIORITY — REQ'D DEL DATE — ADVICE — RI — UNIT PRICE: DOLLARS | CTS

685 1617933 V20632 5167 7078

SAIPAN LHA2
V20632

SHIP TO: PWC NORVA

MARK FOR

PROJECT: 95-15327

TOTAL PRICE: DOLLARS | CTS

ATION — TYPE OF CARGO (G) — UNIT PACK (H) — UNIT WEIGHT (I) — UNIT CUBE (J) — UFC (K) — NMFC (L) — FREIGHT RATE (M) — (N) — DOCUMENT DATE (O) — MAT COND (P) — QUANTITY (Q) — (R) — (S)

(ITEM ORIGINALLY REQUESTED)

FREIGHT CLASSIFICATION NOMENCLATURE: NGW PIG

ITEM NOMENCLATURE: Anti Freeze

BY AND DATE

TYPE OF CONTAINER(S): BT

TOTAL WEIGHT

RECEIVERS USE

RECEIVED BY AND DATE: 2-6-95 Lorenzo B

INSPECTED BY AND DATE

AND DATE

NO. OF CONTAINERS: 1

TOTAL CUBE

WAREHOUSED BY AND DATE

WAREHOUSE LOCATION

XIGL

Approved FOR TRANSFER

N ADDRESS

DATE SHIPPED

ION CHARGEABLE TO

14 B/LADING, AWB, OR RECEIVER'S SIGNATURE (AND DATE)

15 RECEIVER'S DOCUMENT NUMBER

2

JUL 91
-7500

PREVIOUS EDITION MAY BE USED

DOD SINGLE LINE ITEM RELEASE/RECEIPT DOCUMENT

STOCK NUMBER: FSC | NIIN | ADD — UNIT OF ISSUE — QUANTITY — DOCUMENT NUMBER: SERV | REQUISITIONER | DATE | SERIAL — SUFFIX — SERV — SUPPLEMENTARY ADDRESS — SIGNAL — FUND — DISTRIBUTION — PROJECT — PRIORITY — REQ'D DEL DATE — ADVICE — RI — UNIT PRICE: DOLLARS | CTS

8570 02258563 CN 00002 V20632 7010

S Saipan (LHA-2)
V20632

SHIP TO: PWC Q-56

MARK FOR

PROJECT: 95-15326

TOTAL PRICE: DOLLARS | CTS

TION — TYPE OF CARGO (G) — UNIT PACK (H) — UNIT WEIGHT (I) — UNIT CUBE (J) — UFC (K) — NMFC (L) — FREIGHT RATE (M) — (N) — DOCUMENT DATE (O) — MAT COND (P) — QUANTITY (Q) — (R) — (S)

TEM ORIGINALLY REQUESTED)

FREIGHT CLASSIFICATION NOMENCLATURE: NGW PIC

ITEM NOMENCLATURE: HAND CleANER

AND DATE

TYPE OF CONTAINER(S): CN

TOTAL WEIGHT

RECEIVERS USE

RECEIVED BY AND DATE: 7-6-95 Lorenzo B

INSPECTED BY AND DATE

D DATE

NO. OF CONTAINERS: 2

TOTAL CUBE

WAREHOUSED BY AND DATE

WAREHOUSE LOCATION

P7

APRoved FoR Transfer

DDRESS

DATE SHIPPED

CHARGEABLE TO

14 B/LADING, AWB, OR RECEIVER'S SIGNATURE (AND DATE)

15 RECEIVER'S DOCUMENT NUMBER

2

JUL 91
00

PREVIOUS EDITION MAY BE USED

DOD SINGLE LINE ITEM RELEASE/RECEIPT DOCUMENT

DOC IDENT	RI FROM	M & S	STOCK NUMBER FSC	NIIN	ADD	UNIT OF ISSUE	QUANTITY	DOCUMENT NUMBER SERV	REQUISITIONER	DATE	SERIAL	SUFFIX	SERV	SUPPLEMENTARY ADDRESS	SIGNAL	FUND	DISTRIBUTION	PROJECT	PRIORITY	REQ'D DEL DATE	ADVICE	RI
			6850	00DC01438		BT	00001		V20632													

SHIPPED FROM: USS Saipan (LHA-2) V20632 A

SHIP TO: PWC B

MARK FOR: C

PROJECT: D 95-15328

E

WAREHOUSE LOCATION	TYPE OF CARGO	UNIT PACK	UNIT WEIGHT	UNIT CUBE	UFC	NMFC	FREIGHT RATE		DOCUMENT DATE	MAT COND	QUANTITY	
F	G	H	I	J	K	L	M	N	O	P	Q	R

S

SUBSTITUTE DATA (ITEM ORIGINALLY REQUESTED) T

FREIGHT CLASSIFICATION NOMENCLATURE: U NON RES V

ITEM NOMENCLATURE: X ETCH Solution ESP-X Y

W

SHIPPERS USE:
1 SELECTED BY AND DATE:
2 TYPE OF CONTAINER(S): BT
3 TOTAL WEIGHT:
4 PACKED BY AND DATE:
5 NO OF CONTAINERS: 1
6 TOTAL CUBE:

RECEIVERS USE:
7 RECEIVED BY AND DATE: 7-6-95
8 INSPECTED BY AND DATE:
9 WAREHOUSED BY AND DATE:
10 WAREHOUSE LOCATION:

REMARKS: 1V1GL AA

BB

CC

DD APPROVED FOR TRANSFER

EE

11 FIRST DESTINATION ADDRESS:

12 DATE SHIPPED:

FF

GG

13 TRANSPORTATION CHARGEABLE TO

14 B/LADING AWB OR RECEIVER'S SIGNATURE (AND DATE)

15 RECEIVER'S DOCUMENT NUMBER

UNIT PRICE DOLLARS

TOTAL PRICE DOLLARS

DD Form 1348-1, JUL 91
S/N 0102-LF-013-7500

PREVIOUS EDITION MAY BE USED

DOD SINGLE LINE ITEM RELEASE/RECEIPT DO

DOC IDENT	RI FROM	M & S	STOCK NUMBER FSC	NIIN	ADD	UNIT OF ISSUE	QUANTITY	DOCUMENT NUMBER SERV	REQUISITIONER	DATE	SERIAL	SUFFIX	SERV	SUPPLEMENTARY ADDRESS	SIGNAL	FUND	DISTRIBUTION	PROJECT	PRIORITY	REQ'D DEL DATE	ADVICE	RI
			8030-	00N025375		CN	00001		V20632													

SHIPPED FROM: USS Saipan (LHA-2) V20632 A

SHIP TO: PWC Q-58 B

MARK FOR: C

PROJECT: D 95-15328

E

WAREHOUSE LOCATION	TYPE OF CARGO	UNIT PACK	UNIT WEIGHT	UNIT CUBE	UFC	NMFC	FREIGHT RATE		DOCUMENT DATE	MAT COND	QUANTITY	
F	G	H	I	J	K	L	M	N	O	P	Q	R

S

SUBSTITUTE DATA (ITEM ORIGINALLY REQUESTED) T

FREIGHT CLASSIFICATION NOMENCLATURE: U WASTE ADHESIVE 3cA 1133 PSI V

ITEM NOMENCLATURE: X DEX-O-Tex Terrazzo

W

SHIPPERS USE:
1 SELECTED BY AND DATE:
2 TYPE OF CONTAINER(S): CN
3 TOTAL WEIGHT:
4 PACKED BY AND DATE:
5 NO OF CONTAINERS: 1
6 TOTAL CUBE:

RECEIVERS USE:
7 RECEIVED BY AND DATE: 7-6-95
8 INSPECTED BY AND DATE:
9 WAREHOUSED BY AND DATE:
10 WAREHOUSE LOCATION:

REMARKS: 1X1GT AA

BB

CC

DD Approved For Transfer

EE

11 FIRST DESTINATION ADDRESS:

12 DATE SHIPPED:

FF

GG

13 TRANSPORTATION CHARGEABLE TO

14 B/LADING, AWB OR RECEIVER'S SIGNATURE (AND DATE)

15 RECEIVER'S DOCUMENT NUMBER

UNIT PRICE DOLLARS

TOTAL PRICE DOLLARS

PREVIOUS EDITION MAY BE USED

DOD SINGLE LINE ITEM RELEASE/RECEIPT

DD Form 1348-1, JUL 91
S/N 0102-LF-013-7500

STOCK NUMBER — FSC / NIIN: 7930OOF004931
UNIT OF ISSUE: BT
QUANTITY: 006
DOCUMENT NUMBER — SERV / REQUISITIONER / DATE / SERIAL: V 20632 5191 ~~7058~~ 7004
SUPPLEMENTARY ADDRESS | SIGNAL | FUND | DISTRIBUTION | PROJECT | PRIORITY | REQ D DEL DATE | ADVICE | RI | UNIT PRICE DOLLARS CTS

SAIPAN (LHA-2)

SHIP TO: PWC NORFOLK
Q-5d

MARK FOR | PROJECT | TOTAL PRICE DOLLARS CTS

LOCATION | TYPE OF CARGO | UNIT PACK | UNIT WEIGHT | UNIT CUBE | UFC | NMFC | FREIGHT RATE | DOCUMENT DATE | MAT COND | QUANTITY

DATA (ITEM ORIGINALLY REQUESTED)

FREIGHT CLASSIFICATION NOMENCLATURE: NON RCS

ITEM NOMENCLATURE: DRY INK PLUS

TYPE OF CONTAINER(S): BT
TOTAL WEIGHT
NO OF CONTAINERS: 06
TOTAL CUBE

RECEIVED BY AND DATE: 7-11-95
INSPECTED BY AND DATE
WAREHOUSED BY AND DATE
WAREHOUSE LOCATION

APPROVED FOR TRANSFER
John Y[illegible] 1S3 USN
BY DIRECTION

15C

DESTINATION ADDRESS
DATE SHIPPED
TRANSPORTATION CHARGEABLE TO
14 B/LADING, AWB OR RECEIVER'S SIGNATURE (AND DATE)
15 RECEIVER'S DOCUMENT NUMBER

1348-1, JUL 91
0102-LF-013-7500

PREVIOUS EDITION MAY BE USED

DOD SINGLE LINE ITEM RELEASE/RECEIPT DOCUMENT

2

STOCK NUMBER — FSC / NIIN: 6810 011293762
UNIT OF ISSUE: BT
QUANTITY: 24
DOCUMENT NUMBER — SERV / REQUISITIONER / DATE / SERIAL: V 20632 5192 7062
SUPPLEMENTARY ADDRESS | SIGNAL | FUND | DISTRIBUTION | PROJECT | PRIORITY | REQ D DEL DATE | ADVICE | RI | UNIT PRICE DOLLARS CTS

SAIPAN LHA-2
V20632

SHIP TO: PWC NORVA
Q-5G

MARK FOR | PROJECT | TOTAL PRICE DOLLARS CTS

LOCATION | TYPE OF CARGO | UNIT PACK | UNIT WEIGHT | UNIT CUBE | UFC | NMFC | FREIGHT RATE | DOCUMENT DATE | MAT COND | QUANTITY

DATA (ITEM ORIGINALLY REQUESTED)

FREIGHT CLASSIFICATION NOMENCLATURE: NON RCS

ITEM NOMENCLATURE: STANDARD SODIUM CHLORIDE SOLUTION

TYPE OF CONTAINER(S): BT
TOTAL WEIGHT
NO OF CONTAINERS: 24
TOTAL CUBE

RECEIVED BY AND DATE: 7-11-95
INSPECTED BY AND DATE
WAREHOUSED BY AND DATE
WAREHOUSE LOCATION

X 6-2

APPROVED FOR TRANSFER
BY DIRECTION
[illegible] D. Col[illegible] DC3

DESTINATION ADDRESS
DATE SHIPPED
TRANSPORTATION CHARGEABLE TO
14 B/LADING, AWB OR RECEIVER'S SIGNATURE (AND DATE)
15 RECEIVER'S DOCUMENT NUMBER

1348-1, JUL 91
0102-LF-013-7500

PREVIOUS EDITION MAY BE USED

DOD SINGLE LINE ITEM RELEASE/RECEIPT DOCUMENT

2

RI FROM	M & S	STOCK NUMBER FSC / NIIN / ADD	UNIT OF ISSUE	QUANTITY	DOCUMENT NUMBER SERV / REQUISITIONER / DATE / SERIAL	SUFFIX	SERV	SUPPLEMENTARY ADDRESS	SIGNAL	FUND	DISTRIBUTION	PROJECT	UNIT PRICE DOLLARS
		6850-0190667	B	00002	V20632								

PED FROM: USS Saipan (LHA-7)
V20632

SHIP TO: PWC Q 50 B

MARK FOR: C

PROJECT: D 95-15331

TOTAL PRICE DOLLARS: E

EHOUSE LOCATION

TYPE OF CARGO G | UNIT PACK H | UNIT WEIGHT I | UNIT CUBE J | U F C K | N M F C L | FREIGHT RATE M | N | DOCUMENT DATE O | MAT COND P | QUANTITY Q | R | S

STITUTE DATA (ITEM ORIGINALLY REQUESTED)

FREIGHT CLASSIFICATION NOMENCLATURE

U Flammable liquid N.O.S. V 3 UN1993 PG II 1Dol

ITEM NOMENCLATURE

X ENCO Plate Cleaner NAPHTHA PETrolcum

SELECTED BY AND DATE 1

TYPE OF CONTAINER(S) 2 BT

TOTAL WEIGHT 3

RECEIVERS USE

RECEIVED BY AND DATE 7 7-6-95 Lonny Bu

INSPECTED BY AND DATE 8

PACKED BY AND DATE 4

NO. OF CONTAINERS 5 2

TOTAL CUBE 6

WAREHOUSED BY AND DATE 9

WAREHOUSE LOCATION 10

AS 2 X 1 QT

BB

CC

DD Approved For Transfer AZF

EE

DESTINATION ADDRESS

DATE SHIPPED 12

FF

GG

ANSPORTATION CHARGEABLE TO

14 B/LADING AWB OR RECEIVER'S SIGNATURE (AND DATE)

15 RECEIVER S DOCUMENT NUMBER

m 1348-1, JUL 91
02-LF-013-7500

PREVIOUS EDITION MAY BE USED

DOD SINGLE LINE ITEM RELEASE/RECEIPT DOCUMENT

R FROM	M & S	STOCK NUMBER FSC / NIIN / ADD	UNIT OF ISSUE	QUANTITY	DOCUMENT NUMBER SERV / REQUISITIONER / DATE / SERIAL	SUFFIX	SERV	SUPPLEMENTARY ADDRESS	SIGNAL	FUND	DISTRIBUTION	PROJECT	UNIT PRICE DOLLARS CTS
		6850000D001938	BT	00001	V20632								

FROM: USS Saipan (LHA-7)
V20632

SHIP TO: PWC Q-50 B

MARK FOR: C

PROJECT: D 95-15330

TOTAL PRICE DOLLARS CTS: E

SE LOCATION

TYPE OF CARGO G | UNIT PACK H | UNIT WEIGHT I | UNIT CUBE J | U F C K | N M F C L | FREIGHT RATE M | N | DOCUMENT DATE O | MAT COND P | QUANTITY Q | R | S

TE DATA (ITEM ORIGINALLY REQUESTED)

FREIGHT CLASSIFICATION NOMENCLATURE

U NON RTG V

ITEM NOMENCLATURE

X 3M Duplicator Fountain Y

ECTED BY AND DATE

TYPE OF CONTAINER(S) 2 BT

TOTAL WEIGHT 3

RECEIVERS USE

RECEIVED BY AND DATE 7 7-6-95 Lonny B

INSPECTED BY AND DATE 8

ED BY AND DATE

NO. OF CONTAINERS 5 1

TOTAL CUBE 6

WAREHOUSED BY AND DATE 9

WAREHOUSE LOCATION 10

1 X 1 GL

BB

CC

DD APPROVED For Transfer AZF

EE

INATION ADDRESS

DATE SHIPPED 12

FF

GG

ORTATION CHARGEABLE TO

14 B/LADING AWB OR RECEIVER S SIGNATURE (AND DATE)

15 RECEIVER S DOCUMENT NUMBER

1348-1, JUL 91
F 013 7500

PREVIOUS EDITION MAY BE USED

DOD SINGLE LINE ITEM RELEASE RECEIPT DOCUMENT

STOCK NUMBER (FSC / NIIN / ADD) · UNIT OF ISSUE · QUANTITY · DOCUMENT NUMBER (SERV / REQUISITIONER / DATE / SERIAL) · SUFFIX · SERV · SUPPLEMENTARY ADDRESS · SIGNAL · FUND · DISTRIBUTION · PROJECT · PRIORITY · REQ'D DEL DATE · ADVICE · RI

7830 00N32794 BT 000001 V20632 5181 70N6

USS Saipan (LHA-7)
V20632

SHIP TO: PWC

Q-58

MARK FOR: -

PROJECT

OCATION · TYPE OF CARGO · UNIT PACK · UNIT WEIGHT · UNIT CUBE · UFC · NMFC · FREIGHT RATE · DOCUMENT DATE · MAT COND · QUANTITY

ATA (ITEM ORIGINALLY REQUESTED)

FREIGHT CLASSIFICATION NOMENCLATURE: NON REG

ITEM NOMENCLATURE: Bright Rinse (drying agent)

D BY AND DATE

TYPE OF CONTAINER(S): BT

TOTAL WEIGHT

RECEIVERS USE — RECEIVED BY AND DATE: 7-6-95

INSPECTED BY AND DATE

BY AND DATE: 1X1GL

NO. OF CONTAINERS: 1

TOTAL CUBE

WAREHOUSED BY AND DATE

WAREHOUSE LOCATION

Approved for Transfer
AZ3

ION ADDRESS

DATE SHIPPED

TION CHARGEABLE TO

14 B/LADING, AWB, OR RECEIVER'S SIGNATURE (AND DATE)

15 RECEIVER'S DOCUMENT NUMBER

1, JUL 91
3-7500

PREVIOUS EDITION MAY BE USED

DOD SINGLE LINE ITEM RELEASE/RECEIPT DOCUME

STOCK NUMBER (FSC / NIIN / ADD) · UNIT OF ISSUE · QUANTITY · DOCUMENT NUMBER (SERV / REQUISITIONER / DATE / SERIAL) · SUFFIX · SERV · SUPPLEMENTARY ADDRESS · SIGNAL · FUND · DISTRIBUTION · PROJECT · PRIORITY · REQ'D DEL DATE · ADVICE · RI · UNIT PRICE DOLLARS

6850 00F014009 BT 00001 V20632 5181 70R5

S Saipan (LHA-7)
V20632

SHIP TO: PWC

Q 58

MARK FOR

PROJECT

TOTAL PRICE DOLLARS

CATION · TYPE OF CARGO · UNIT PACK · UNIT WEIGHT · UNIT CUBE · UFC · NMFC · FREIGHT RATE · DOCUMENT DATE · MAT COND · QUANTITY

A (ITEM ORIGINALLY REQUESTED)

FREIGHT CLASSIFICATION NOMENCLATURE: NON REG

ITEM NOMENCLATURE: Press CleaneR

BY AND DATE

TYPE OF CONTAINER(S): BT

TOTAL WEIGHT

RECEIVERS USE — RECEIVED BY AND DATE: 7-6-95

INSPECTED BY AND DATE: -

Y AND DATE

NO. OF CONTAINERS: 1

TOTAL CUBE

WAREHOUSED BY AND DATE

WAREHOUSE LOCATION

1 QT

Approved For Transfer
AZ

ION ADDRESS

DATE SHIPPED

ATION CHARGEABLE TO

14 B/LADING, AWB, OR RECEIVER'S SIGNATURE (AND DATE)

15 RECEIVER'S DOCUMENT NUMBER

1, JUL 91
13-7500

PREVIOUS EDITION MAY BE USED

DOD SINGLE LINE ITEM RELEASE/RECEIPT DOCUME

DOC IDENT	RI FROM	M & S	STOCK NUMBER FSC	NIIN	ADD	UNIT OF ISSUE	QUANTITY	DOCUMENT NUMBER SERV	REQUISITIONER	DATE	SERIAL	SUFFIX	SERV	SUPPLEMENTARY ADDRESS	SIGNAL	FUND	DISTRIBUTION	PROJECT	PRIORITY	REQ D DEL DATE	ADVICE	RI
			1150	00-598-2411			0001	V20632 5177			7079 7AB											

SHIPPED FROM
USS SAIPAN LHA2
V20632
A

SHIP TO
PWC Q-50
NORVA
B

MARK FOR
C

PROJECT
D

TOTAL DOLLARS
E

WAREHOUSE LOCATION	TYPE OF CARGO	UNIT PACK	UNIT WEIGHT	UNIT CUBE	U F C	N M F C	FREIGHT RATE		DOCUMENT DATE	MAT COND	QUANTITY		
F	G	H	I	J	K	L	M	N	O	P	Q	R	S

SUBSTITUTE DATA (ITEM ORIGINALLY REQUESTED) T

FREIGHT CLASSIFICATION NOMENCLATURE
U NCN REG
V

W

ITEM NOMENCLATURE
X LuBe oil Ref
Y

SHIPPERS USE
1 SELECTED BY AND DATE
2 TYPE OF CONTAINER(S) BT
3 TOTAL WEIGHT
4 PACKED BY AND DATE
5 NO OF CONTAINERS 1
6 TOTAL CUBE

RECEIVERS USE
7 RECEIVED BY AND DATE 7-6-98 Lorenzo
8 INSPECTED BY AND DATE
9 WAREHOUSED BY AND DATE
10 WAREHOUSE LOCATION

REMARKS
AA 1X1GL
BB
CC
DD Approved FOR TRANSFER
EE

11 FIRST DESTINATION ADDRESS
12 DATE SHIPPED
FF
GG

13 TRANSPORTATION CHARGEABLE TO
14 B/LADING AWB, OR RECEIVER'S SIGNATURE (AND DATE)
15 RECEIVER'S DOCUMENT NUMBER

DD Form 1348-1, JUL 91
S/N 0102-LF-013-7500

PREVIOUS EDITION MAY BE USED

DOD SINGLE-LINE ITEM RELEASE/RECEIPT DO

DOC IDENT	RI FROM	M & S	STOCK NUMBER FSC	NIIN	ADD	UNIT OF ISSUE	QUANTITY	DOCUMENT NUMBER SERV	REQUISITIONER	DATE	SERIAL	SUFFIX	SERV	SUPPLEMENTARY ADDRESS	SIGNAL	FUND	DISTRIBUTION	PROJECT	PRIORITY	REQ D DEL DATE	ADVICE	RI
			8010	00N043686		CN	00001		V20632													

SHIPPED FROM
USS Saipan (LHA-2)
V20632
A

SHIP TO
PWC Q-50
B

MARK FOR
C

PROJECT
D

UNIT DOLLARS

TOTAL DOLLARS
E

WAREHOUSE LOCATION	TYPE OF CARGO	UNIT PACK	UNIT WEIGHT	UNIT CUBE	U F C	N M F C	FREIGHT RATE		DOCUMENT DATE	MAT COND	QUANTITY		
F	G	H	I	J	K	L	M	N	O	P	Q	R	S

SUBSTITUTE DATA (ITEM ORIGINALLY REQUESTED) T

FREIGHT CLASSIFICATION NOMENCLATURE
U NCN REG
V

W

ITEM NOMENCLATURE
X Monco Rust Coat
Y

SHIPPERS USE
1 SELECTED BY AND DATE
2 TYPE OF CONTAINER(S) CN
3 TOTAL WEIGHT
4 PACKED BY AND DATE
5 NO OF CONTAINERS 1
6 TOTAL CUBE

RECEIVERS USE
7 RECEIVED BY AND DATE 7-6-98 Lorenzo
8 INSPECTED BY AND DATE
9 WAREHOUSED BY AND DATE
10 WAREHOUSE LOCATION

REMARKS
AA 1X2GL
BB
CC
DD Approved FOR TRANSFER
EE

FIRST DESTINATION ADDRESS
12 DATE SHIPPED
FF
GG

TRANSPORTATION CHARGEABLE TO
14 B/LADING AWB OR RECEIVER'S SIGNATURE (AND DATE)
15 RECEIVER'S DOCUMENT NUMBER

Form 1348-1, JUL 91
0102-LF-013-7500

PREVIOUS EDITION MAY BE USED

DOD SINGLE LINE ITEM RELEASE RECEIPT DOCU

M & S | STOCK NUMBER: FSC | NIIN | ADD | UNIT OF ISSUE | QUANTITY | DOCUMENT NUMBER: SERV | REQUISITIONER | DATE | SERIAL | SUFFIX | SERV | SUPPLEMENTARY ADDRESS | SIGNAL | FUND | DISTRIBUTION | PROJECT | PRIORITY | REQ'D DEL DATE | ADVICE | R | UNIT PRICE: DOLLARS | CTS

9150-00419062 8 CN0001 V20632

SAIPAN LHA2
V20632

SHIP TO
PWC
NORVA
Q-50

MARK FOR
PROJECT
TOTAL PRICE: DOLLARS | CTS

CATION | TYPE OF CARGO | UNIT PACK | UNIT WEIGHT | UNIT CUBE | UFC | NMFC | FREIGHT RATE | DOCUMENT DATE | MAT COND | QUANTITY

A (ITEM ORIGINALLY REQUESTED)

FREIGHT CLASSIFICATION NOMENCLATURE
NON PEG

ITEM NOMENCLATURE
ACFT GREASE

BY AND DATE

TYPE OF CONTAINER(S)
CN

TOTAL WEIGHT

RECEIVERS USE

RECEIVED BY AND DATE
7-5-95

INSPECTED BY AND DATE

Y AND DATE

NO OF CONTAINERS
1

TOTAL CUBE

WAREHOUSED BY AND DATE

WAREHOUSE LOCATION

L/P7

Approved FOR TRANSFER
By DIRECTION
DC3

ION ADDRESS

DATE SHIPPED

ATION CHARGEABLE TO

14 B/LADING AWB OR RECEIVER'S SIGNATURE (AND DATE)

15 RECEIVER'S DOCUMENT NUMBER

2

-1, JUL 91
13-7500

PREVIOUS EDITION MAY BE USED

DOD SINGLE LINE ITEM RELEASE/RECEIPT DOCUMENT

---

6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80

M & S | STOCK NUMBER: FSC | NIIN | ADD | UNIT OF ISSUE | QUANTITY | DOCUMENT NUMBER: SERV | REQUISITIONER | DATE | SERIAL | SUFFIX | SERV | SUPPLEMENTARY ADDRESS | SIGNAL | FUND | DISTRIBUTION | PROJECT | PRIORITY | REQ'D DEL DATE | ADVICE | R | UNIT PRICE: DOLLARS | CTS

8040 001-097-4518 CN00001 V20632 5181 7048

SAIPAN LHA2
~~V02~~ V20632

SHIP TO
PWC
NORVA
Q-50

MARK FOR
PROJECT
TOTAL PRICE: DOLLARS | CTS

OCATION | TYPE OF CARGO | UNIT PACK | UNIT WEIGHT | UNIT CUBE | UFC | NMFC | FREIGHT RATE | DOCUMENT DATE | MAT COND | QUANTITY

ATA (ITEM ORIGINALLY REQUESTED)

FREIGHT CLASSIFICATION NOMENCLATURE
NON PEG

ITEM NOMENCLATURE
ADHesive ~~(Labeling)~~ Fire Resistant

D BY AND DATE

TYPE OF CONTAINER(S)
CN

TOTAL WEIGHT

RECEIVERS USE

RECEIVED BY AND DATE
7-5-95

INSPECTED BY AND DATE

BY AND DATE

NO OF CONTAINERS
1

TOTAL CUBE

WAREHOUSED BY AND DATE

WAREHOUSE LOCATION

9C

Approved FOR TRANSFER
By DIRECTION

TION ADDRESS

DATE SHIPPED

TATION CHARGEABLE TO

14 B/LADING, AWB OR RECEIVER'S SIGNATURE (AND DATE)

15 RECEIVER'S DOCUMENT NUMBER

2

8-1, JUL 91
013-7500

PREVIOUS EDITION MAY BE USED

DOD SINGLE LINE ITEM RELEASE/RECEIPT DOCUMENT

R FROM	M S S	FSC	NIIN	ADD	UNIT OF ISSUE	QUANTITY	SERV	REQUISITIONER	DATE	SERIAL	SUFFIX	SERV	SUPPLEMENTARY ADDRESS	SIGNAL	FUND	DISTRIBUTION	PROJECT	PRIORITY	REQ'D DEL DATE	ADVICE	RI	DOLLARS
		9150	002319071		CN	1		V20632	5181	7049												

FROM: SS SAIPAN LHA-2 V20632

SHIP TO: PWC NORVA Q-50

B

MARK FOR

C

PROJECT

D

TOTAL PRICE DOLLARS

E

OUSE LOCATION	TYPE OF CARGO	UNIT PACK	UNIT WEIGHT	UNIT CUBE	U F C	N M F C	FREIGHT RATE		DOCUMENT DATE	MAT COND	QUANTITY	
	G	H	I	J	K	L	M	N	O	P	Q	R

S

TUTE DATA (ITEM ORIGINALLY REQUESTED)

FREIGHT CLASSIFICATION NOMENCLATURE: U NON REG

V

ITEM NOMENCLATURE: X BRAKE FLUID AUTOMOTIVE

Y

ELECTED BY AND DATE

TYPE OF CONTAINER(S): 2 CN

TOTAL WEIGHT: 3

RECEIVERS USE

RECEIVED BY AND DATE: 7 7-5-95

INSPECTED BY AND DATE: 8

ACKED BY AND DATE

NO. OF CONTAINERS: 5 1

TOTAL CUBE: 6

WAREHOUSED BY AND DATE: 9

WAREHOUSE LOCATION: 10

S N/SC

BB

CC

DD APPROVED FOR TRANSFER

By Ray Vineyard

EE

ESTINATION ADDRESS

DATE SHIPPED: 12

FF

GG

NSPORTATION CHARGEABLE TO

14 B/LADING AWB. OR RECEIVER'S SIGNATURE (AND DATE)

15 RECEIVER'S DOCUMENT NUMBER

n 1348-1, JUL 91
2-LF-013-7500

PREVIOUS EDITION MAY BE USED

DOD SINGLE LINE ITEM RELEASE/RECEIPT DOCUMENT

---

12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80

STOCK NUMBER NIIN	ADD	UNIT OF ISSUE	QUANTITY	SERV	REQUISITIONER	DATE	SERIAL	SUFFIX	SERV	SUPPLEMENTARY ADDRESS	SIGNAL	FUND	DISTRIBUTION	PROJECT	PRIORITY	REQ'D DEL DATE	ADVICE	RI	UNIT PRICE DOLLARS CTS
-01-041-1609		CN	00001		V20632	5181	7047												

DAN (LHA-2)
2

SHIP TO: PWC NORVA Q-50

B

MARK FOR

C

PROJECT

D

TOTAL PRICE DOLLARS CTS

E

TYPE OF CARGO	UNIT PACK	UNIT WEIGHT	UNIT CUBE	U F C	N M F C	FREIGHT RATE		DOCUMENT DATE	MAT COND	QUANTITY	
G	H	I	J	K	L	M	N	O	P	Q	R

S

LLY REQUESTED)

FREIGHT CLASSIFICATION NOMENCLATURE: U WASTE ADHESIVE 3 UN 1133 PG II

ITEM NOMENCLATURE: X TEXTILE INKS ADHESIVE

Y

TYPE OF CONTAINER(S): 2 CN

TOTAL WEIGHT: 3

RECEIVERS USE

RECEIVED BY AND DATE: 7 7-5-95

INSPECTED BY AND DATE: 8

NO. OF CONTAINERS: 5 1

TOTAL CUBE: 6

WAREHOUSED BY AND DATE: 9

WAREHOUSE LOCATION: 10

BB

CC

DD APPROVED FOR TRANSFER

By direction
Ray Vineyard

EE

DATE SHIPPED: 12

FF

GG

BLE TO

14 B/LADING AWB OR RECEIVER'S SIGNATURE (AND DATE)

15 RECEIVER'S DOCUMENT NUMBER

PREVIOUS EDITION MAY BE USED

DOD SINGLE LINE ITEM RELEASE/RECEIPT DOCUMENT

STOCK NUMBER: FSC / NIIN / ADD — 68500[illegible]1504921
UNIT OF ISSUE: CN
QUANTITY: 00001
DOCUMENT NUMBER: SERV / REQUISITIONER / DATE / SERIAL — V20632 5181 7020
SUFFIX / SERV / SUPPLEMENTARY ADDRESS / SIGNAL / FUND / DISTRIBUTION / PROJECT / PRIORITY / REQ'D DEL. DATE / ADVICE / RI / UNIT PRICE DOLLARS CTS

SAIPAN (LHA-2
20632

SHIP TO: PWC NORVA
Q·58
B
MARK FOR: C
PROJECT: D
TOTAL PRICE DOLLARS CTS: E

TYPE OF CARGO G | UNIT PACK H | UNIT WEIGHT I | UNIT CUBE J | UFC K | NMFC L | FREIGHT RATE M | N | DOCUMENT DATE O | MAT COND P | QUANTITY Q | R | S

(ITEM ORIGINALLY REQUESTED)
FREIGHT CLASSIFICATION NOMENCLATURE: U NON REG | V
ITEM NOMENCLATURE: X SCALE PREVENTION COMPOUND | Y

TYPE OF CONTAINER(S): 2 CN
TOTAL WEIGHT: 3
NO. OF CONTAINERS: 5 1
TOTAL CUBE: 6
RECEIVERS USE
RECEIVED BY AND DATE: 7 7-5-95
INSPECTED BY AND DATE: 8
WAREHOUSED BY AND DATE: 9
WAREHOUSE LOCATION: 10

TGL | BB | CC | DD

APPROVED FOR TRANSFER
By direction ~~By V. Sword~~
EE

DATE SHIPPED: 12 | FF | GG
CHARGEABLE TO
14 B/LADING, AWB, OR RECEIVER'S SIGNATURE (AND DATE)
15 RECEIVER'S DOCUMENT NUMBER

PREVIOUS EDITION MAY BE USED
DOD SINGLE LINE ITEM RELEASE/RECEIPT DOCUMENT

2

STOCK NUMBER: FSC / NIIN / ADD — [illegible]-48-[illegible]
UNIT OF ISSUE: CN
QUANTITY: 00003
DOCUMENT NUMBER: SERV / REQUISITIONER / DATE / SERIAL — V20632 7044
SUFFIX / SERV / SUPPLEMENTARY ADDRESS / SIGNAL / FUND / DISTRIBUTION / PROJECT / PRIORITY / REQ'D DEL DATE / ADVICE / RI / UNIT PRICE DOLLARS CTS

SAIPAN LHA 2
V20632

SHIP TO: PWC
NORVA G 58
B
MARK FOR: C
PROJECT: D
TOTAL PRICE DOLLARS CTS: E

TYPE OF CARGO G | UNIT PACK H | UNIT WEIGHT I | UNIT CUBE J | UFC K | NMFC L | FREIGHT RATE M | N | DOCUMENT DATE O | MAT COND P | QUANTITY Q | R | S

(ITEM ORIGINALLY REQUESTED)
FREIGHT CLASSIFICATION NOMENCLATURE: U 3 UN2054 PG II DOT | V
ITEM NOMENCLATURE: waste X Morpholine technical | Y

TYPE OF CONTAINER(S): 2 CN
TOTAL WEIGHT: 3
NO. OF CONTAINERS: 5 2
TOTAL CUBE: 6
RECEIVERS USE
RECEIVED BY AND DATE: 7 7-5-95
INSPECTED BY AND DATE: 8
WAREHOUSED BY AND DATE: 9
WAREHOUSE LOCATION: 10

TL | BB | CC | DD

Approved FOR TRANSFER
By direction

DATE SHIPPED: 12 | FF | GG
CHARGEABLE TO
14 B/LADING, AWB, OR RECEIVER'S SIGNATURE (AND DATE)
15 RECEIVER'S DOCUMENT NUMBER

PREVIOUS EDITION MAY BE USED
DOD SINGLE LINE ITEM RELEASE RECEIPT DOCUMENT

2

2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77

DOC IDENT	RI FROM	M & S	STOCK NUMBER FSC	NIIN	ADD	UNIT OF ISSUE	QUANTITY	DOCUMENT NUMBER SERV	REQUISITIONER	DATE	SERIAL	SUFFIX	SERV	SUPPLEMENTARY ADDRESS	SIGNAL	FUND	DISTRIBUTION	PROJECT	PRIORITY	REQ'D DEL DATE	ADVICE	RI	UNIT PR DOLLARS
			9150	00-235-5568			00001		V20632		7042												

HIPPED FROM
A USS SAIPAN LHA2
V20632

SHIP TO
B PWC
NORVA Q-50

MARK FOR C

PROJECT D

TOTAL PR DOLLARS E

WAREHOUSE LOCATION	TYPE OF CARGO	UNIT PACK	UNIT WEIGHT	UNIT CUBE	U F C	N M F C	FREIGHT RATE		DOCUMENT DATE	MAT COND	QUANTITY		
F	G	H	I	J	K	L	M	N	O	P	Q	R	S

UBSTITUTE DATA (ITEM ORIGINALLY REQUESTED)

FREIGHT CLASSIFICATION NOMENCLATURE
U NON REG

V

ITEM NOMENCLATURE
X Grease, Graphite (soft)

Y

SHIPPERS USE
SELECTED BY AND DATE 1
TYPE OF CONTAINER(S) 2 CN
TOTAL WEIGHT 3
PACKED BY AND DATE 4
NO OF CONTAINERS 5 2
TOTAL CUBE 6

RECEIVERS USE
RECEIVED BY AND DATE 7 6-27-95 Lorenzo Bush
INSPECTED BY AND DATE 8
WAREHOUSED BY AND DATE 9
WAREHOUSE LOCATION 10

REMARKS
AA 2 X 5 LB
BB
CC
DD APPROVED FOR TRANSFER
By Direction
FF
GG Nory D. Col DC3

IRST DESTINATION ADDRESS

DATE SHIPPED 12

3 TRANSPORTATION CHARGEABLE TO

14 B/LADING, AWB, OR RECEIVER'S SIGNATURE (AND DATE)

15 RECEIVER'S DOCUMENT NUMBER

D Form 1348-1, JUL 91
/N 0102-LF-013-7500

PREVIOUS EDITION MAY BE USED

DOD SINGLE LINE ITEM RELEASE/RECEIPT DOCU

---

2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78

DOC IDENT	RI FROM	M & S	STOCK NUMBER FSC	NIIN	ADD	UNIT OF ISSUE	QUANTITY	DOCUMENT NUMBER SERV	REQUISITIONER	DATE	SERIAL	SUFFIX	SERV	SUPPLEMENTARY ADDRESS	SIGNAL	FUND	DISTRIBUTION	PROJECT	PRIORITY	REQ'D DEL DATE	ADVICE	RI	UNIT PRIC DOLLARS
			8030	008354348		CN	00001		V20632	5181	7071												

PPED FROM
USS SAIPAN (LHA-2
V20632

SHIP TO
B PWC NORVA
Q 50

MARK FOR C

PROJECT D

TOTAL PRICE DOLLARS E

REHOUSE LOCATION	TYPE OF CARGO	UNIT PACK	UNIT WEIGHT	UNIT CUBE	U F C	N M F C	FREIGHT RATE		DOCUMENT DATE	MAT COND	QUANTITY		
	G	H	I	J	K	L	M	N	O	P	Q	R	S

BSTITUTE DATA (ITEM ORIGINALLY REQUESTED)

FREIGHT CLASSIFICATION NOMENCLATURE
U NON REG

V

ITEM NOMENCLATURE
X (CLEAR) Corrosion Preventive Compound

USE
SELECTED BY AND DATE 1
TYPE OF CONTAINER(S) 2 CN
TOTAL WEIGHT 3
PACKED BY AND DATE 4
NO OF CONTAINERS 5 1
TOTAL CUBE 6

RECEIVERS USE
RECEIVED BY AND DATE 7 7-5-95 Lorenzo Bush
INSPECTED BY AND DATE 8
WAREHOUSED BY AND DATE 9
WAREHOUSE LOCATION 10

MARKS
NGL
BB
CC
DD APPROVED FOR TRANSFER
EE By direction
FF Ray ~~[illegible]~~ Saucedo
GG

T DESTINATION ADDRESS

DATE SHIPPED 12

TRANSPORTATION CHARGEABLE TO

14 B/LADING, AWB, OR RECEIVER'S SIGNATURE (AND DATE)

15 RECEIVER'S DOCUMENT NUMBER

Form 1348-1, JUL 91
0102-LF-013-7500

PREVIOUS EDITION MAY BE USED

DOD SINGLE LINE ITEM RELEASE/RECEIPT DOCUM

APPENDIX B

HAZARDOUS MATERIALS

HAZARDOUS WASTE

MINIMIZATION, REUTILIZATION AND DISPOSAL GUIDE

COMNAVBASE NORFOLK ENVIRONMENTAL PROGRAMS
HAZARDOUS WASTE DIVISION

TABLE OF CONTENTS

MINIMIZATION ... 1

A. MATERIAL SUBSTITUTION AND INVENTORY CONTROL ... 1
B. HAZARDOUS INVENTORY CONTROL SYSTEM (HICS) ... 2

REUTILIZATION ... 2

A. HAZARDOUS MATERIAL (HM) RETURN TO SUPPLY ... 2
B. EXTEND SHELF LIFE ... 2
C. CROSSDECKING/FISC "SMART BUY" PROGRAM ... 3
D. DEFENSE DEPOT, NORFOLK VA. (DDNV) ... 4
E. NAVAL AIR STATION (NAS) NORFOLK RECYCLE/REUSE PAINT STORE ... 4
F. DEFENSE REUTILIZATION AND MARKETING OFFICE (DRMO), NORFOLK ... 5

DISPOSAL ... 6

A. SHORE COMMANDS: ... 6
B. SHIPS ... 6
C. PACKAGING/ PAPERWORK REQUIREMENTS: ... 7

SPECIFIC TYPES OF WASTE ... 8

A. PAINTS ... 8
B. USED OIL ... 8
MATRIX FOR PETROLEUM AND SYNTHETIC BASED PRODUCTS ... 10
C. OIL FILTERS ... 11
D. PD-680 ... 11
E. RAGS ... 12
F. ASBESTOS ... 13
G. BATTERIES ... 13
H. AEROSOL CANS ... 14
I. INDUSTRIAL WASTE ... 15
J. X-2 OR X-3 CHEMICALS ... 15
K. GAS CYLINDERS ... 16
L. BUILDING MATERIALS ... 17
M. APPLIANCES ... 17
N. SILVER/SILVER RECOVERY UNITS ... 17
O. METHYL ETHYL KEYTONE PEROXIDE ... 18
P. NON-REGULATED WASTE ... 18
Q. SPEEDY-DRY OR ABSORBENT MATERIAL ... 19
R. UNKNOWNS ... 19

CONTAINER INFORMATION ... 20

A. CONTAINER PROCUREMENT ... 20
B. DISPOSAL OF EMPTY METAL CONTAINERS ... 20

ADDITIONAL INFORMATION ... 21

A. RECYCLING ... 21
B. METAL ONLY DUMPSTER ... 21
C. COMMAND ENVIRONMENTAL POINTS OF CONTACT ... 23

APPENDIX 1: HM FLOW CHART 24

APPENDIX 2: DDNV PROCEDURES FOR MATERIAL EXCHANGES 25

APPENDIX 3: DD FORM 1348-1 INSTRUCTIONS 26

APPENDIX 4: OSHA HAZARDOUS CHEMICAL WARNING LABEL 27

APPENDIX 5: RATE SCHEDULE, PWC NORFOLK 28

HAZARDOUS MATERIALS / HAZARDOUS WASTE (HM/HW) MINIMIZATION REUTILIZATION AND DISPOSAL GUIDE

The information compiled here is provided to assist you in properly managing hazardous materials/hazardous waste (HM/HW), oil, and asbestos at Naval Base, Norfolk. The goal of proper management of these materials is to order only what you need and use what you order. For excess material, if it was purchased within thirty days, you may return the material for exchange or refund. The next priority is to find another user; the last resort is to turn in the material to Public Works Center (PWC), Norfolk, for disposal. For additional information, please call Commander, Naval Base (COMNAVBASE), Norfolk Environmental Programs Department, Leslee Oberg-Carpenter or Mr. Duane Gielda at 444-3009.

All Naval Air Station (NAS) Norfolk commands must contact the Facility Maintenance Department (FMD) before disposing of HM/HW. All DD Forms 1348-1 must be signed by authorized persons at FMD before disposal can be completed. FMD can be reached at 444-0600. (See APPENDIX 6 for more detailed information.)

MINIMIZATION

The first step towards reducing HW generation is through reduction in HM procurement. Minimizing the amount of HM purchased not only reduces the amount of HW generated but also saves man hours required to reutilize or manage the HM as HW. To minimize HW generation do the following:

A. MATERIAL SUBSTITUTION AND INVENTORY CONTROL

1. Review work practices to determine if non-HM or a material with less hazardous constituents may be substituted. Technical manual guidance must, however, be the prevailing factor in any decision to use substitute materials.

2. Buy only the amount of HM needed for a particular job. Fleet and Industrial Supply Center (FISC) Norfolk Paint Mart, located in Building X-218, sells any amount of paint and paint related materials in small units of issue, such as 1 quart or 1 pint. Required documents are a completed DD Form 1348-1A or NAVSUP Form 1250 and a FISC Serve Mart card. To ease shopping at Serve Mart and Paint Mart, their program and entire inventory can be copied onto two computer disks. This service is provided for free,

but the command must supply the disks. Call FISC Norfolk Serve Mart (Bldg. W-135) at 444-2263 for more information.

3. Review inventory, rotate stock and use materials with shortest expiration date first.

B. HAZARDOUS INVENTORY CONTROL SYSTEM (HICS)

Another way to manage HM and greatly minimize HW generation is to acquire the Hazardous Inventory Control System (HICS). HICS is a software program developed at Naval Air Weapons Station, Pt. Mugu which minimizes the amount of excess HM through centralizing the procurement, storage, issue, reuse and disposal of HM. Properly managed, a 70 % reduction of HM/HW disposal can be realized. To learn more about HICS, call FISC Customer Service at 444-8273.

REUTILIZATION

Reutilization is the next priority in the disposal of HM. See APPENDIX 1 for an abbreviated flow chart of how to reutilize and dispose of HM. Specific reutilization methods are discussed below.

A. HAZARDOUS MATERIAL (HM) RETURN TO SUPPLY

1. If you purchase HM and find that you cannot use all that you have purchased, return to NAS Supply or FISC/Defense Depot Norfolk VA (DDNV) within 30 days for an exchange or refund. (See APPENDIX 2 for specific details.) You must have an original copy of the DD Form 1348-1 showing that the material was shipped from NAS Supply or FISC/DDNV. The Julian date on the 1348-1 must not be more than thirty days old. Bring both the material and an original copy of the DD Form 1348-1 to the Fleet Liaison Section, in the Customer Service Divisions, Fleet Support Branch located on the first floor in Bldg. W-143 or to the NAS Supply Department, Building V-53. For further directions, please call FISC/DDNV, 444-4047/1926 or NAS Supply Department, 444-3276.

B. EXTEND SHELF LIFE

If the material you have is expired, don't panic! Many times the shelf life of a material can be extended. Always extend the shelf life before continuing with other disposal alternatives.

All shelf-life material is either Type I or Type II. Approximately ten percent is Type I and cannot be extended. Ninety percent, on the other hand, is Type II with an extendible shelf-life. In-house inspections and tests are good enough for most of your material. It is, however, often difficult for personnel to find descriptions of the specific inspections or tests required to extend the shelf-life of particular items. There is no single source of test information. GSA and all military services except the Navy have developed separate storage standards.

Since the Navy has not yet developed storage standards, shelf-life extension inspections and tests on Navy-managed material must rely on locally developed instructions and old-fashioned common sense. For most Type II material, shelf-life extension tests are not complicated, do not require a laboratory, and can be done on the spot by anyone with a minimum of training. They are usually nothing more than visual checks for damage or deterioration.

For example, shelf-life extension of paint can be accomplished according to the Federal Standard 793, "Depot Storage Standards". "End users are authorized and encouraged to examine paint using FED-STD-793 guidelines or by using practical, end-use related tests to determine if the materials still meets their intended use. End users may extend the shelf-life as long as the paint performs satisfactorily for their needs." Recent discussions with Navy and Commercial authorities on paints and coatings support this determination. Even though the expiration date may have passed, your examination of the material is the final determinant of the usefulness of GSA paint you have purchased. Therefore, before disposing of paint because it's shelf-life has expired, you are strongly encouraged to review FED-STD-793, paragraph 4. For further assistance in determining if the shelf-life can be extended, call Mr. Jim Merritt, at 444-1096. or contact your Supply Officer.

Defense General Supply Center (DGSC) in Richmond, VA has a Quality Status List (QSL) which extends certain Type II Federal Stock Class (FSC) material. Included on the QSL are FSCs: 6635, 6750, 6810, 6840, 6850, 9110, 9150, and 9160. To obtain a copy of the microfiche that show the shelf-life extensions call Jim Lewis at DSN 695-4140 or commercial 1-279-4140.

C. CROSSDECKING/FISC "SMART BUY" PROGRAM

If you cannot use the material before its shelf life expires, crossdecking it, i.e., finding someone else (another activity, squadron, or command) who uses the same material and giving it to them, is the next best alternative. Before crossdecking, extend the shelf life (see above). Crossdecking saves you from having to manage the material as HW and saves us, as taxpayers, disposal costs.

Crossdeck by:

1. Calling other activities to let them know what your inventory is and arranging for the transfer of the material.

2. Submitting a complete inventory of the material you want to crossdeck to FISC Norfolk's Hazardous Materials Management Division. They will advertise the material, through the "Flash" bulletin's "Smart Buy" program, which is distributed regularly. The Flash is also a good source to identify material that you want to procure, since it is distributed free of charge. For more information or to get on the Flash distribution list, call Craig Hughes or Garry Humphries at 444-7566.

D. DEFENSE DEPOT, NORFOLK VA. (DDNV)

If the procurement date of the material is greater than 30 days, the shelf-life of the material cannot be extended, or the material cannot be crossdecked, it may be possible to return the material to DDNV. The following requirements apply:

1. The material must be in Class A condition. It must be new material with NO scratches, dents, or rust on the container. Material must have original labels and be in the same unit of issue as originally issued. (For example: if the material was issued as 12 items to a box, you must have 12 items to return to DDNV).

2. The material must have at least 6 months of shelf life remaining. **Extend shelf life if at all possible, before returning to DDNV.** (See Shelf-Life extension section above).

3. The material must be accompanied by a completed DD Form 1348-1. Your Supply Office has copies of this form.

4. DDNV POC is Mr. William Alexander at 444-1167.

5. If DDNV issues incorrect or defective material, see APPENDIX 2 for specific instructions.

E. NAVAL AIR STATION (NAS) NORFOLK RECYCLE/REUSE PAINT STORE

NAS Norfolk Recycle/Reuse Paint Store accepts paint, hydraulic fluids, and lube oils that have expired, but not been used. The paint is re-issued for purposes other than those originally intended (example: expired aircraft paint may be used to paint office furniture). Before delivering HM to Building SP-83, call Mr. Larry Odietus to ensure acceptance at 444-4944.

1. Only commands on NAS Norfolk may **turn in** materials at this reuse store, however, **any command may pick up materials for reuse--free of charge**. No paperwork is required for pick up of materials. Requirements for turn in are:

a. All containers must be non-leaking and in good condition, e.g. no rust or dents, and must have the original label intact.

b. The generator must deliver to Building SP-83. Call for an appointment at 444-4944.

c. A completed DD Form 1348-1 is required for turn-in.

F. DEFENSE REUTILIZATION AND MARKETING OFFICE (DRMO), NORFOLK

DRMO Norfolk can accept any material for reuse that DDNV or FISC Norfolk cannot accept. Remember: Extending the shelf-life, crossdecking and returning to DDNV or FISC Norfolk are first priorities for reuse of good materials. Call DRMO Norfolk at 445-4450 to ensure acceptance and coordinate turn-in of material. Turn in requirements are as follows:

1. Items may be expired, but containers should be in good condition--not too rusted or dented.

2. If kits are being turned in, all parts of the kit must be included.

3. Paperwork required:

a. Completed DD Form 1348-1, (SEE APPENDIX 3).
b. MSDS
c. OSHA Hazardous Chemical Warning Label (APPENDIX 4)
Only adhesive type labels are acceptable.

Examples of materials that DRMO Norfolk will accept:

a. all flammable materials (solvents, paints, etc.)
b. all photographic chemicals
c. corrosives

d. used synthetic oils and used synthetic hydraulic fluids
e. mercuric nitrate
f. cleaning compounds
g. greases

If your HM is rejected by DRMO Norfolk, please request a "917 rejection form." This form provides specific information explaining why your HM was rejected. After making the necessary corrections, return the HM to DRMO Norfolk for reutilization.

DISPOSAL

If a hazardous material is used or if it becomes a HW after all other routes of utilization or disposal have been attempted, the last management alternative is PWC. PWC Norfolk is our HW transport and disposal agent. They pick up HW at Hazardous Waste Accumulation Areas (HWAA) and at specific pier locations on a reimbursable basis (see APPENDIX 5). The POC for HW pick ups is Mr. Bill Whitmire at 444-7528. HW pick ups can be scheduled as follows:

A. SHORE COMMANDS:

1. With an established 90 day HWAA: call PWC Norfolk for a pick up at least 1 month prior to the 90 day accumulation start date expiration, or as soon as the drum is full. The ships have priority over shore commands, sometimes causing delays in shore command HW pick ups. Call PWC Norfolk at 444-7528 to schedule a HW pick up.

2. Without an established 90 day HWAA: Call PWC Norfolk at 444-7528 to schedule a pick-up. (If you need to establish a 90 day HWAA, contact Leslee Oberg-Carpenter, COMNAVBASE Norfolk Environmental Programs Department at 444-3009. COMNAVBASE Norfolk Environmental is the only Department on Naval Base, Norfolk that can establish 90 day HWAAs).

B. SHIPS

1. Ships in local private shipyards: Allow at least 1 week for scheduled pick up. Call PWC Norfolk at 444-7528.

2. Ships at Naval Station, Norfolk piers:

a. **Less than 4 pallets of HM/HW:** There are several PWC Norfolk HW pick up points on the piers for less than four pallets of HM/HW. HW can be dropped off only at these specific piers listed below and the corresponding times. A person from the ship must accompany the HW from the time it leaves the ship to the time it is picked up by PWC Norfolk for disposal.

Pier pick-up schedule is:

Monday - Friday

0800-0930	Piers 5 and 11
0945-1100	Pier 24
1300-1400	Between Piers 21 and 22 (Across from the piers next to the fence).

b. **More than 4 pallets of HM/HW:** An offload conference is required for disposing of four or more pallets of HM/HW. Call COMNAVBASE Norfolk, Duane Gielda at 444-3009 to schedule a conference.

****

IT IS A VIOLATION OF STATE AND FEDERAL LAW TO ABANDON HW ON PIERS.

****

C. PACKAGING/ PAPERWORK REQUIREMENTS:

1. Tri-Wall Boxes are not authorized for turn in of HW. They increase disposal costs because of increased sorting time and risk incompatibility reactions.

2. For various container sizes of waste paint, segregate according to container size and prepare one DD Form 1348-1 for each different size group of containers.

3. Paperwork required for turn in of HM/HW to PWC Norfolk: Completed DD-Form 1348-1 (see APPENDIX 3). Indicate on the form in Block AA the process generating waste, e.g., painting, degreasing, vapor cleaning, boiler cleaning, etc. Please have the DD-Form 1348-1 completed prior to turn-in to ensure prompt service.

4. All NAS Norfolk HWAA Custodians must contact FMD at 4-0600 before calling PWC for a pick-up. (See APPENDIX 6)

SPECIFIC TYPES OF WASTE

A. PAINTS

1. Waste paint is the largest single HW disposal item at Naval Base, Norfolk. See APPENDIX 6 for Paint Disposal Costs. Therefore, reduction of waste paint generation should be a high priority for all commands. All precautions should be taken not to order more paint than a particular job requires. If you find that you have extra unused paint, follow the procedures under "REUTILIZATION" in this guide.

2. If the paint is a HW, (is no longer usable due to product damage), it must be disposed. Call PWC Norfolk for a pick up at 444-7528. A completed DD Form 1348-1 is required for turn in. (See APPENDIX 3).

B. USED OIL

1. Petroleum Oil: Petroleum based oils and fluids can be recycled. If petroleum and synthetic products are mixed together they cannot be recycled, but if a mixture of synthetic and petroleum products occurs, they are managed as a non-regulated waste, NOT as HW.

a. If the petroleum oil is contaminated with water and dirt only, it is not regulated as a HW. Label "USED PETROLEUM OIL". Dispose of as follows:

SHIPS: To schedule a Sewage and Waste Oil Barge (SWOB) or Oil Disposal Raft (ODR), contact Port Operations at 444-3745. If the used oil is in containers and the total volume is greater than 5 gallons, contact Port Operations at 444-3745.

NAVSTA NORFOLK SHORE COMMANDS: Contact PWC Oil Recovery at 445-1546 or 444-7528.

NAS NORFOLK COMMANDS: For used petroleum oils ONLY, (not contaminated with a HW), contact NAS Norfolk Fuel Farms at 444-2625. This service is free for NAS Norfolk commands.

b. If the petroleum oil is contaminated with a HW such as MEK or MOGAS, it is regulated as a HW and must be labeled with all contamination. These oils must be disposed of through PWC as HW, call PWC at 444-7528.

2. Synthetic based oils: Synthetic based oils cannot be recycled. Keep petroleum and synthetic based products separate!

a. If synthetic oil is contaminated with water and dirt only, it is not regulated as a HW. Label "USED SYNTHETIC OIL". Used synthetic oils can be taken to DRMO Norfolk, building SDA-204. Call DRMO Norfolk for turn in appointment at 445-4450. The command must approximate the percentage of contaminants in the synthetic oil and deliver it to DRMO Norfolk with completed DD Form 1348-1 (SEE APPENDIX 3), OSHA Warning Label and MSDS.

b. If the synthetic oil is contaminated with a HW such as MEK or MOGAS, it is regulated as a HW and must be labeled with all contamination.

3. A quick reference sheet is provided on the following page.

MATRIX FOR PETROLEUM AND SYNTHETIC BASED PRODUCTS

PRODUCT(S)	SYN	PET	PD-680	FREON	JP-4	JP-5	MOGAS	MEK
PETROLEUM	2	1	1	3	3	1	3	3
SYNTHETIC	2	2	2	3	3	2	3	3

1. **RECYCLABLE, NOT HW:** CALL NAS FUEL FARMS OR PWC OIL RECOVERY

SHORE COMMANDS:

NAS FUEL FARMS: 444-2625
PWC OIL RECOVERY: 445-1546/444-7528

SHIPS: CALL PORT OPS AT 444-3745

2. **NOT RECYCLABLE, NOT HW:** TURN IN TO DRMO FOR REUSE, TRANSFER, DONATION OR SALES.

DRMO APPOINTMENT: 445-4450

REQUIRED: MSDS, OSHA WARNING LABEL, DD FORM 1348-1

APPROXIMATE PERCENTAGES OF CONTAMINATES IN THE OIL.

3. **HW:** ONLY PWC CAN PICK UP AND TRANSPORT FOR DISPOSAL.

PWC HW PICK UP: 444-7528

NEED: DD FORM 1348-1

NOTE: ANY MIXTURE THAT INCLUDE PRODUCTS WHERE A NUMBER 3 RESULTS IS CONSIDERED A HW.

C. OIL FILTERS

1. Some automotive or truck oil filters contain high levels of lead and after use must be managed as hazardous waste (HW). There is no set procedure for identifying which oil filters contain lead.

2. All filters are exempted from hazardous waste management regulations if properly drained, crushed and recycled. The following disposal procedures will be used at Naval Base, Norfolk. The activity will:

a. Puncture the filter anti-drain back valve or the filter dome end and hot drain, or dismantle and hot-drain the filter for a minimum of 24 hours. Ensure that the used oil from the filter is drained into a suitable container and disposed of in accordance with this COMNAVBASE NORVA (5090/5).

b. Place drained filters in a 55 gallon steel drum. Make sure the drum is properly sealed, using the locking ring and bolt.

c. Deliver the filters to the Q-50 Metals Yard compound for recycling. Pick ups for large quantities can be arranged by contacting the Metals Recovery program manager.

d. No paperwork is required for turn-in.

4. The point of contact at the Q-50 Metals Recovery Facility is Mr. Mike Berry at 445-8700. The point of contact for this office is Leslee Oberg-Carpenter at 444-3009.

D. PD-680

1. PD-680 is a petroleum based solvent which can be recycled as long as it is not contaminated with a HW. PD-680 mixed with other **petroleum based fluids**, water or dirt should be picked up for recycling. When calling PWC Norfolk Oil Recovery, indicate that the mixture of hydraulic fluid and PD-680 is petroleum based for recycling. Label the container "used petroleum fluids with PD-680."

a. **NAVSTA NORFOLK SHORE COMMANDS:** Contact PWC Oil Recovery at 444-7528.

b. **NAS NORFOLK COMMANDS:** Contact NAS Norfolk Fuel Farms at 444-2625.

2. PD-680 mixed with synthetic based fluids cannot be recycled. Containers should be labeled as "used synthetic hydraulic fluid with PD-680". Deliver to DRMO Norfolk (See Reutilization section for turn-in requirements). NAS Norfolk commands see "Used Oil" section.

E. RAGS

1. Oily Rags: Rags must be placed in double plastic bags and labeled as to what they were used for, e.g., hydraulic fluid, PD 680, etc. List all contaminants on the bag. (If rags contain hazardous products like, MEK, thinner, or freon, see Hazardous Waste Rags Section below.)

a. **NAVSTA Ships:** PWC collects oily rags Tuesday and Thursday ONLY at the following times and pier locations:

1230	Pier 11
1300	Pier 5
1330	Pier 24
1400	Between Piers 21 and 22

This scheduled pier pick up is for oily rags ONLY. All other wastes pick ups are according to the pier pick up schedule in the Disposal Section of this guide.

b. **NAVSTA Shore commands:** Call PWC for an oily rag pick-up at 444-7528.

c. **NAS Norfolk commands.** An oily rags contract is in effect for NAS commands. National Linen Service will pick up and deliver to the same location, any amount of rags on a weekly schedule. A significant cost savings can be realized by using this service. (Call FMD at 444-2048/0600 for more information.)

2. Hazardous Waste (HW) Rags: Rags that have been contaminated with HM HW, such as MEK, thinner or freon must be managed as HW. They must be in a sealed container (i.e. a 55 gallon drum) for turn-in. Call PWC Norfolk for a HW pick up at 444-7528.

F. ASBESTOS

1. Commands located on the main Naval Base Norfolk complex can deliver asbestos to the Q-50-F area. A HW transporter's permit is required to transport asbestos along public highways; therefore, commands located outside the Naval base complex must call PWC Norfolk to transport and dispose of asbestos. There is a charge for transportation, in addition to the disposal charge. Hours of operation at the Q-50 area are 0700-1530, M-F. A completed DD Form 1348-1 is required for asbestos disposal.

a. Ships: For asbestos pick up contact PWC Norfolk, 445-2660. A job order number has been established for ships. A completed DD Form 1348-1 is required.

b. Shore activities: PWC Norfolk also removes asbestos (on a reimbursable basis), from pipes, buildings, etc., but only at shore commands. Contact PWC Norfolk Service Desk, 444-4431, to schedule asbestos removal or a pick up. A completed DD Form 1348-1 is required for disposal. Shore commands must have their job order number when calling for a pick up.

2. Disposal of safes and file cabinets that possibly contain asbestos: Call COMNAVBASE Norfolk Safety 445-6735/6750. They will determine if the safe or file cabinet contains asbestos. If it does contain asbestos, then it must be double wrapped in plastic by the generator and delivered to DRMO Norfolk. Before delivery to DRMO Norfolk, call for appointment and proper paperwork, 445-4450. If transportation is required, call Roland Harper at PWC Norfolk Rigger Shop, 444-2814.

G. BATTERIES

1. Lead Acid Batteries: The COMNAVBASE Resource, Recovery, and Recycling Program (RRRP) accepts recyclable lead acid batteries at the Q-50 metals yard located at the Norfolk Naval Base. Commands located at the Naval Base, Norfolk and the surrounding area may use this service. These restrictions apply:

a. Only lead acid batteries (marine, vehicular, and forklift) can be accepted.

b. Batteries must be in good condition with caps securely in place.

c. The customer must deliver the batteries to the Q-50 metals yard in a government owned vehicle.

d. Hours of operation are Monday-Friday 0700-1500.

e. No turn in document or appointment is required for turn-in to RRRP.

f. The POC at the Q-50 Metals Yard is Mr. Mike Berry at 445-8700.

g. Leaking and Damaged (cracked)Lead Acid Batteries: These must be turned in to PWC Norfolk as hazardous waste. A completed DD Form 1348-1 is required for pick up. Call 444-7548 for pick up appointment. See APPENDIX 3 for DD Form 1348-1 instruction.

2. All other batteries, such as Nickel-cadmium, mercury and lithium must be managed as HW. Turn in to PWC with appropriate paperwork (See Disposal section).

H. AEROSOL CANS

1. Empty aerosol cans, other than zinc chromate paint, lead paint and freon, can be placed in a plastic bag (no more than 25 per bag) and deposited in the metal only dumpster.

2. Zinc chromate aerosol paint cans, lead aerosol paint cans and freon aerosol cans, whether empty, full or partially full, must be turned in to PWC Norfolk for disposal. A completed DD Form 1348-1 must accompany your turn in (see APPENDIX 3).

3. All Other Partially full or full aerosol cans that contained HW are to be managed as HW, with proper labeling and a start date. **Within thirty days from the start date**, commands located on the main Base complex, can deliver the aerosol cans to the Metals Yard in the Q-50 area. The generator must have at least 60 days remaining on this waste to allow time for the cans to be processed. Only commands located on the main Base complex can transport HW on the base; a HW transporter's permit is required to transport HW along public highways. The Metals Yard is equipped to discharge the liquid from the cans and recycle the metal. Call Mr. Mike Berry 445-8700 for more information.

I. INDUSTRIAL WASTE

1. The Industrial Wastewater Treatment Plant (IWTP), on the Naval Base, Norfolk, can accept certain industrial wastes, such as sodium nitrite, hydrazine and morphaline in bulk tanker truck loads. These industrial wastes cannot be contaminated with any chelating agents such as boiler cleaning compound Ethylenediaminetetraacetic acid (EDTA). IWTP cannot accept Aqueous Film Forming Foam (AFFF) except on a very limited basis. For more information, contact PWC Norfolk Environmental Laboratory at 445-8850. Guidelines for industrial waste disposal are:

a. Allow at least one week to schedule a tanker. Contact PWC Norfolk at 444-7528.

b. Do not mix industrial waste with any other waste. Contact PWC Norfolk at 444-7528 for more information.

c. For boiler cleaning, if at all possible, use sodium nitrite versus EDTA. The disposal cost is less, since it can be treated at the IWTP, rather than going off-Base for disposal.

J. X-2 OR X-3 CHEMICALS

1. X-2 and X-3 chemicals can be turned in to DRMO Norfolk. Call DRMO at 445-4450 for a turn in appointment. Requirements for turn in are:

a. When X-2 or X-3 chemicals are turned in, they must be demilitarized ("Demiled"). The Contract Number (Defense Logistics Agency Number), MIL SPEC Number, NSN Number and other identification markings must be scraped off or obliterated on each item and all packing containers. On the DD Form 1348-1, fill in the grouping class (Federal Stock Class) of the material for boxes 8-11, 00 for boxes 12 and 13, and an abbreviated description of the material for boxes 14-20. (For example: 6810 00 hy perxd). The demil code, obtained from the supply system, must appear in boxes 64 and 65.

b. PWC will pick up, demil, and dispose of X-2 or X-3 chemicals on a reimbursable basis.

c. The following NSN X-2 spent resins must be taken to DDNV, Building Y-102, 4-1167: 6810-00-181-8321; 6810-00-181-8322; 6810-00-111-0564; 6810-00-111-0567. These NSN's are sent back to the manufacturer for refurbishing and reuse.

d. All other X-2 resins must be turned into PWC for HW disposal.

K. GAS CYLINDERS

1. If stamped "U.S. Government", "USN", "USAF", or "USA", turn the cylinder in to FISC Norfolk; Call Mr. Peterson at 444-3914, for turn in guidance.

2. If the gas cylinder is from a contractor, return to the contractor.

3. If the contractor cannot be located, return the cylinder to the manufacturer. Many times the manufacturer will pick up the cylinder free of charge to refurbish for future use. Before calling the manufacturer, be sure to obtain all identifying marks on the cylinder, such as:

a. What material the cylinder contains.
b. Manufacturer's name, address and phone number.
c. Department of Transportation (DOT) number.
d. Serial number.
e. Service pressure.
f. Last hydrostatic test date.
g. Any and all other numbers or identifying marks.

4. If no manufacturer is identified on the cylinder, call Defense General Supply Center (DGSC) in Richmond, VA. with all the above information. They may be able to identify the manufacturer by the numbers and other identifying marks on the cylinder. POC at DGSC is Mr. Dean Crawford, DSN: 695-3230.

5. If the manufacturer does not want the cylinder, ask them to write a letter, on their letterhead, to Commander, Naval Base, Norfolk, stating that they donate the cylinder to the U.S. Government. When this letter is received, the cylinder can be turned in to FISC (see number 1.)

Address: Commander, Naval Base, Norfolk
Code N4

1530 Gilbert Street, Ste. 200
Norfolk, VA 23511-2797

6. If the gas cylinders were purchased in a foreign country, call COMNAVBASE Environmental Programs Department at 444-3009 for guidance.

7. Cylinders containing halon and Ozone Depleting Substance (ODS), such as freon, or chlorofluorocarbons (CFCs), have specific instructions for procurement and turn in. Please call COMNAVBASE Environmental Programs Department for specific guidance.

L. BUILDING MATERIALS

Building materials from demolition, which are suspect of containing lead or asbestos, should be analyzed before disposal. Call COMNAVBASE Environmental Programs Department at 444-3009 for guidance.

M. APPLIANCES

1. Metal appliances, such as washers and dryers may be turned in to DRMO Norfolk (Camp Allen) Metals Yard. A DD Form 1348-1 is required for turn; call 444-5600 for appointment.

2. Air conditioning units, refrigerators, freezers and any other equipment that once held freon must be certified freon free before turn in to DRMO. PWC Norfolk will evacuate freon from all equipment on a reimbursable basis. To arrange for freon evacuation, if you already have an established job order number with PWC, place a service call to PWC Norfolk at 444-4431. After the equipment is certified freon free, call DRMO for an appointment at 445-1312.

IT IS A VIOLATION OF FEDERAL LAW TO VENT FREON TO THE ATMOSPHERE!

N. SILVER/SILVER RECOVERY UNITS

1. Silver recovery units used in photograhpy shops, dental or hospital X-ray rooms contain valuable amounts of silver that can be turned in to DRMO's Precious Metals Recovery Program. They accept steel wool type silver recovery units, as well as passive silver cell cartridges and electrolytic flake silver. Specific instructions for turn-in are available in a Standard Operating

Procedure on silver recovery units. Call COMNAVBASE Norfolk Environmental Programs Department at 444-3009.

2. Photographic film and X-ray film that has been exposed can also be turned in to DRMO for silver recovery.

3. DRMO Precious Metal Recovery point of contact is Mr. Henry Stewart 444-5113.

4. A DD Form 1348-1 is required for turn-in. (see APPENDIX 3).

O. METHYL ETHYL KEYTONE PEROXIDE

Methyl ethyl keytone peroxide (MEKP) is a hardening agent used for resin and fiberglass. PWC Norfolk cannot dispose of MEKP; excess MEKP must be disposed of as HW through a separate and very costly disposal process. In order to avoid excess quantities of MEKP, resin kits, NSN 8040-01-091-3748, are available in the supply system and contain enough MEKP and resin for 1 gallon mixtures. DO NOT ORDER MEKP IN UNITS OF ONE GALLON, UNLESS SPECIFIC UNIQUE REQUIREMENTS EXISTS. If you have excess quantities of MEKP, please call COMNAVBASE Environmental Programs Department at 444-3009 for guidance.

P. NON-REGULATED WASTE

1. Some wastes are not designated as HW, but still require management to prevent pollution. For instance, used oil with only dirt and water is not regulated as HW; however, proper disposal must still be accomplished to prevent any releases to the environment such as spillage or dumping. Other examples of non-regulated waste are: used antifreeze, used synthetic oil (with no HW constituents), and non-hazardous laboratory reagents.

2. In order to prevent extra handling charges from PWC to manage non-regulated wastes, the generator can deliver them directly to DRMO, SDA-204. DRMO turn-in requirements are listed under the Reutilization section of this Guide. In general, the generator must deliver to DRMO, have a completed DD Form 1348-1 and make an appointment. If it is not known whether or not a waste is HW or non-regulated, please call COMNAVBASE Norfolk Environmental Programs Department at 444-3009.

Non-regulated items can be transported in the container they are purchased in. If many small items are alike, they can be placed in a ziplock-type plastic bag for delivery to DRMO.

Q. SPEEDY-DRY OR ABSORBENT MATERIAL

1. Speedy dry or other absorbent that has been used to absorb spills is managed the same as the HM or HW that is absorbed in it. For example, if the speedy dry was used to absorb used oil, it will be managed the same as used oily rags; if the speedy dry was used to absorb paint or paint thinner, it must be managed as a HW since paint and thinner are HW.

R. UNKNOWNS

1. Generators must do their utmost to prevent a HW from losing its identity and becoming "unknown". However, if contents become unknown, follow the procedures outlined below.

a. SHORE COMMANDS WITH A HAZARDOUS WASTE ACCUMULATION AREA:

1. Label the container "unknown" with a start date.

2. Call PWC Norfolk Laboratory at 445-8850/8851 to have the unknown analyzed. Request characterization for disposal. Either the generator or the lab can take the sample.

3. Write on the container, the date the sample was taken and the words "Waiting for analysis".

4. When the analysis is known, proceed with segregation and disposal in the usual manner.

b. SHIPS HOME PORTED AT NAVAL BASE, NORFOLK:

1. Label the container "UNKNOWN" with any other information available, i.e., the shop, work area or process the waste came from, pertinent MSDS information or what the waste is suspected to be.

2. Waste may be turned in to PWC as usual, with a completed DD Form 1348-1. Complete analysis of the waste must be done, before disposal can be accomplished. Disposal cost will be the highest PWC Rate, Tier III, which includes analytical costs of approximately $1000.

CONTAINER INFORMATION

A. CONTAINER PROCUREMENT

1. If original containers cannot be used to store HW in, used drums may be obtained by the following methods:

a. PWC Norfolk provides used drums when scheduling a HW pick up. Drums are exchanged on a 1:1 basis, only. There is no charge for these drums. Call 444-7528.

b. COMNAVBASE Norfolk Metals Yard in the Q-50 area has free, used drums on a limited basis. No paperwork is required, the generator must pick up. Call 445-8700.

c. DRMO Norfolk at Camp Allen issues used drums. A completed DD Form 1348-1 must be prepared, using the requisition number in boxes 30-41. The requisition number can be obtained from the supply officer or requisition officer who must also sign the DD Form 1348-1. In addition, a letter of authorization must be on file at DRMO Norfolk. There is no charge for used drums. Call 444-5600 for more information and to schedule an appointment.

2. If original containers, or used drums cannot be obtained, new drums can be purchased through FISC: call FISC Customer Service at 444-7100/7891.

55 gallon steel with bung openings: NSN 8110-00-292-9783
55 gallon steel with open tops: NSN 8110-00-823-8121
55 gallon plastic with bung opening: NSN 8110-01-150-0677

Other various container sizes are available according to your needs.

B. DISPOSAL OF EMPTY METAL CONTAINERS

1. Empty 55 gallon drums must not be placed in the metal only dumpster. Empty, smaller metal containers may be placed in the metal only dumpster. All liquid that can be removed, must be removed to prevent contamination of the dumpster. In addition, remove all lids and deposit into the metal only dumpster separately.

2. COMNAVBASE Norfolk Metals Yard, located in the Q-50 area accepts empty 55 gallon drums, as long as they are completely empty. Drums at this facility are crushed and recycled or given to commands to use for HW storage. The generator is responsible for transporting the drums to the Metals Yard. Call 445-8700 for more information.

3. Generators may also deliver empty drums to DRMO Norfolk, Camp Allen Metals Yard. Call 445-1312 to coordinate a delivery. Drums must be completely empty. A completed DD Form 1348-1 is required.

4. Transportation is available on a reimbursable basis from PWC Norfolk. If transportation is necessary contact PWC Norfolk Transportation at 444-8591/2088.

ADDITIONAL INFORMATION

A. RECYCLING

COMNAVBASE Norfolk operates a Recycling Program that includes aluminum cans, corrugated cardboard, white office paper, white computer paper and scrap metal (see Metal Only Dumpster, below). Information on this and other recycling programs can be obtained by calling the COMNAVBASE Resource Recovery and Recycling Program (RRRP) at 445-9683/8550.

B. METAL ONLY DUMPSTER

1. Metal only dumpsters are provided as a convenient way for a command to dispose of their scrap metal. However, many items are NOT acceptable in the metal only dumpsters. If any of the below listed items are found in the metal only dumpster, the dumpster will be rejected until the items are removed.

Wood
Hot Water Heaters
Bathroom Fixtures
Air Conditioners
Trash or Garbage
Washers
Compressors
Refrigerators
Furniture
Dryers
Water Fountains
Wire Rope > 5 ft.

Compressed Gas Cylinders
Fire Extinguishers
Light Fixtures
Light Bulbs
Skylights
Garden Hoses
Concrete
Plaster
Light Covers
Windows
Tires
Hydraulic Hoses
Ceiling Tile
Building Supplies
Plastic
Light Ballasts
Doors
Fire Hoses
Batteries
Paper

2. Paint cans may be placed in the metal only dumpster, ONLY if they are empty; all liquid paint must be physically removed, and the residual paint is dry and hardened. There must be less than one inch of dry hardened paint in the bottom of the container before it can be placed in the metal only dumpster. Remove all lids from metal containers and deposit in the metal only dumpster separately.

3. Other empty metal containers, 5-gallon or less, are accepted in the metal only dumpster only if they contain less than 1 inch of residue in the bottom.

4. The POC for metal only dumpsters is Mr. Mike Berry at 445-8700.

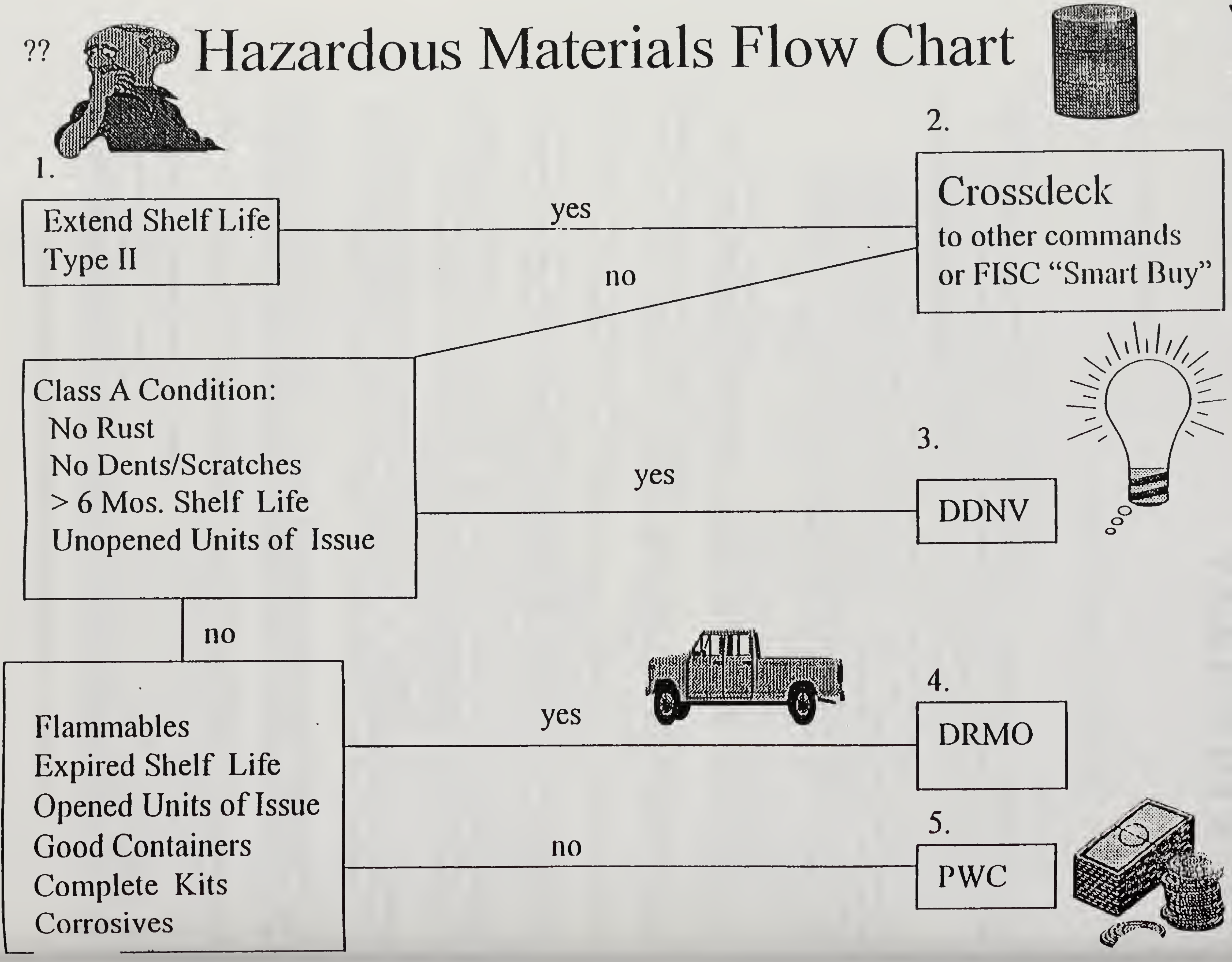
C. COMMAND ENVIRONMENTAL POINTS OF CONTACT

COMNAVAIRLANT	JOE KING	444-3741
COMNAVSUBLANT	LEON HUTCHINSON	444-3046
COMNAVSURFLANT	CHICK HUNDLEY	444-5660
COMNAVBASE ENVIRONMENTAL	WAYNE GIELDA	444-3009
	L. OBERG-CARPENTER	444-3009
DDNV TURN-IN REQ'MENTS	BILL ALEXANDER	444-1167
DRMO TURN-IN APPOINTMENT		445-4450
DRMO REUTILIZATION INFO	HENRY STEWART	444-5113
FISC REUSE STORE		444-7566
FOSSAC SHELF LIFE EXTENSION	JIM MERRITT	444-1096
METALS YARD TURN-IN	MIKE BERRY	445-8700
NAS Norfolk	FMD	444-0600
PWC HW TURN-IN	BILL WHITMIRE	444-7528
PWC OIL RECOVERY		444-3745

PLEASE SEE SPECIFIC REQUIREMENTS FOR TURN-IN UNDER APPROPRIATE SECTION OF COMNAVBASE NORVA 5090/5, HM/HW MINIMIZATION, REUTILIZATION AND DISPOSAL GUIDE.

APPENDIX 1

Hazardous Materials Flow Chart



PROCEDURES FOR PROCESSING MATERIAL EXCHANGES

The following procedures are available for use by customers in the local area when Defense Distribution Depot, Norfolk, Virginia (DDNV) issues incorrect or defective material. Customers out of the local area will use standard Report of Discrepancy (ROD) procedures.

1. MATERIAL ISSUED WITHIN 30 DAYS

a. You must have an original copy of the DD Form 1348-1 or DD Form 1348-1A showing that the material was shipped from FISC/DDNV Norfolk, VA.

b. The Julian date in the Document Date block located in block "O" of the DD Form 1348-1 or block "5" of the DD Form 1348-1A must be less than 30 days old. Document dates over 30 days old will be handled using the normal Report of Discrepancy (ROD) procedures.

c. Bring both the material and an original copy of the DD Form 1348-1 or DD Form 1348-1A to the Fleet Liaison Section, in the Customer Service Division, Fleet Support Branch located on the first floor in building W-143. If further directions are required, please call 444-4047 or 444-1926.

d. The Fleet Liaison personnel will review the material and documentation, and prepare a Material Cancellation/Exchange Program package. The customer will be directed to take the material and Material Cancellation/Exchange Program package to doorway 15 at building W-143.

e. The personnel at doorway 15 in building W-143 will take custody of the incorrect or defective material, and direct the customer to the appropriate warehouse for re-issue of the correct "A" condition material.

f. The customer will then proceed to the appropriate warehouse location to obtain their re-issue of material.

g. If the material is unable to be re-issued because there are no more assets available (NIS), the warehouse personnel will annotate the Material Cancellation/Exchange Program package.

1. The customer will then be directed to return the annotated Material Cancellation/Exchange Program package to the Fleet Liaison Section for further processing.

2. The Fleet Liaison personnel will accept the Material Cancellation/Exchange Program package from the customer. They will ascertain if the customer wants the requisition referred to the appropriate Item Manager of if the customer wants credit only. The Fleet Liaison Section will forward the Material Cancellation/Exchange Program package to DDNV, Code XV. DDNV Code XV upon receiving the Material Cancellation/Exchange Program package from the Fleet Liaison Section, will process the credit or pass the requisition as requested.

2. MATERIAL ISSUED OVER 30 DAYS

a. If the Julian date in the Document Date block located in block "O" of the DD Form 1348-1 or block "5" of the DD Form 1348-1A is over 30 days old, use normal Report of Discrepancy (ROD) procedures.

APPENDIX 2

DD FORM 1348-1 INSTRUCTIONS

1. Segregate material according to Federal Stock Class (FSC), compatibility and container size.
2. Segregate used from unused HM/HW.
3. Place leaking HM in appropriate salvage containers (5, 55, or 85 gallon). These can be supplied by PWC on request. Call 444-7528.
4. Properly complete the DD Form 1348-1 as follows:

PWC, DRMO, & FISC REUSE REQUIRE THE FOLLOWING INFORMATION ON DD FORM 1348-1:

Boxes: 8-22 FSC and stock number.
23-24 Unit of issue.
25-29 Quantity.
30-35 Unit Identification Complete Doc #.
36-39 Julian Date of turn-in.

Block: A. Activity generating, (bldg. # and command).
B. Activity shipped to (PWC, DRMO, FISC, etc.)
F. A Point of Contact and phone #
X. Generic name of product.
2. Type of container.
5. Number of containers.
DD. Approved for transfer by signature.
FF. Date shipped.

IN ADDITION TO THE ABOVE, DRMO ALSO REQUIRES THE FOLLOWING INFORMATION:

Boxes: 52-53 Fund Code (Command Specific)
65-66 Demilitarization Code
74-80 Unit Price

Block: 3. Weight

AA. DOT Certification statement: "The HM is packaged in containers as prescribed in DOT HM Regulations 49 CFR parts 170-189." Original containers meet this certification.

NAS COMMANDS ONLY: When UIC N00188 is used, the DD-1348 must have the following:

Block: DD: Authorized Signature and Stamp
FF: Date

APPENDIX 3

SAFETY NOTE

Subj: CHANGE IN PROCEDURE FOR HAZARDOUS MATERIAL TURN-IN FOR REUTILIZATION

COMNAVBASE Norfolk VA 281209Z JUL 92 directed the following changes in procedures effective immediately:

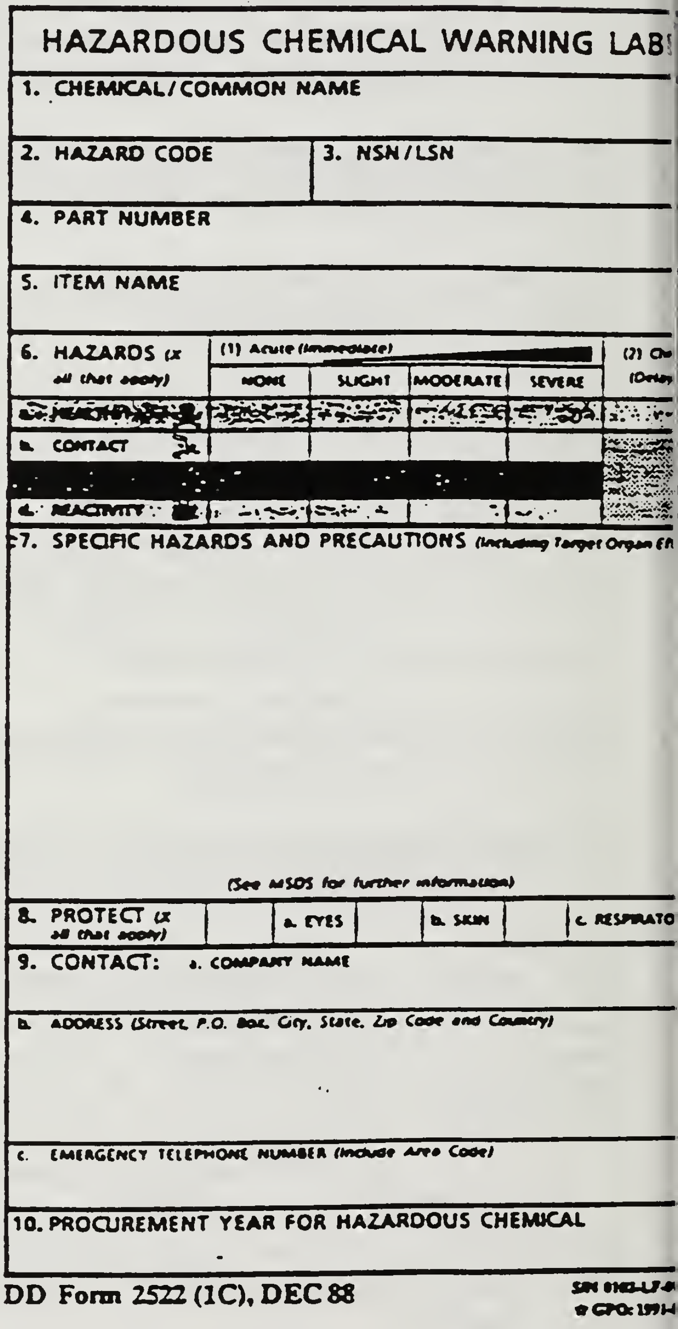
1. OSHA chemical warning label for HM affixed to container prior to turn-in to Defense Reutilization and Marketing Office (DRMO). Material WILL NOT BE ACCEPTED for reutilization without the OSHA label. A material safety data sheet (MSDS) and 1348-1 are, also, REQUIRED for HM turn-in.

2. The Hazardous Material Information System (HMIS) a data base of MSDS can produce DOD labels for items listed in the system. Forms have been ordered and will be available through the Safety Office. The HMIS is available through Safety and Supply.

3. For boxed HM in new/unopened condition, only the original box needs to have the hazardous chemical warning label. A manufacturer packed box with a hazardous chemical label on the outside is sufficient. Provided the box remains as originally packed by the manufacturer, each item in the box does not have to have an OSHA label. HM turned-in outside their original container must be labeled with the OSHA data.

4. If the HM is not found in HMIS, create a hazardous chemical warning label from the manufacturer's MSDS. Do not attempt to create a DOD-type label, because of it's complexity. DOD labels can only be printed from the HMIS. Instead, label each container or original box with the following OSHA required information, info can be written on any adhesive backed label:

a. Identity of the Hazardous Chemicals(s).
b. Appropriate hazardous warnings (to include health risks/target organs).
c. Name and address of the chemical manufacturer, importer, or other responsible party.



HAZARDOUS CHEMICAL WARNING LAB

1. CHEMICAL/COMMON NAME

2. HAZARD CODE | 3. NSN/LSN

4. PART NUMBER

5. ITEM NAME

6. HAZARDS (x all that apply)	(1) Acute (Immediate)				(2) Ch (Delay
	NONE	SLIGHT	MODERATE	SEVERE	
[illegible]					
b. CONTACT					
[illegible]					
d. REACTIVITY					

7. SPECIFIC HAZARDS AND PRECAUTIONS (Including Target Organ Ef

(See MSDS for further information)

8. PROTECT (x all that apply)		a. EYES		b. SKIN		c. RESPIRATO

9. CONTACT: a. COMPANY NAME

b. ADDRESS (Street, P.O. Box, City, State, Zip Code and Country)

c. EMERGENCY TELEPHONE NUMBER (Include Area Code)

10. PROCUREMENT YEAR FOR HAZARDOUS CHEMICAL

DD Form 2522 (1C), DEC 88

APPENDIX

NAVY PUBLIC WORKS CENTER NORFOLK
ENVIRONMENTAL DEPARTMENT
FY95 HAZARDOUS WASTE (HW) RATE STRUCTURE

In an effort to reduce the cost of processing and disposing of HW, PWC Norfolk has revised their HW rate structure. PWC will now have 3 basic rates. They are as follows:

Rate 1. HW that is properly packaged, marked and labeled. COST: $.60/lb.

Rate 2. HW that needs to be repackaged, marked or labeled. COST: $.88/lb.

Rate 3. HW is not properly identified. COST: $.98/lb.

In addition to one of the 3 basic rates, generators will be charged the contract disposal cost established through the DRMS/DRMO HW disposal contract.

HW received will be prescreened to ensure that waste has been properly identified by the generator on both the DD Form 1348-1 and the container. Waste that does not appear to be as described by the generator will have a sample taken and sent to the laboratory for analysis. If the analytical data supports what the generator has stated on his turn-in document, then PWC will pay for the cost of the analysis. However, if the analytical data shows something other than what the generator has indicated, the generator will be billed the cost of the analysis. Analytical cost for an unknown drum of waste is approximately $928.00 This cost is in addition to Rate 3, plus the DRMO contract cost.

EXAMPLES:

1. 1 x 55 GAL DRUM OF WASTE PAINT (WT. 550 LB.) DRUM COMPLIES WITH ALL PACKAGING AND LABELING REQUIREMENTS.

RATE 1 (550 LB. X $.60/LB) =	$330.00
DRMO CONTRACT COSTS (550 LB. X $.55/LB) =	$302.50
TOTAL COST FOR DISPOSAL	$632.50

2. 1 x 55 GAL DRUM OF WASTE PAINT (WT. 550 LB.) DRUM NEEDS REPACKAGING DUE TO OPEN CONTAINER.

RATE 2 (550 LB. X $.88/LB) =	$484.00
DRMO CONTRACT COSTS (550 LB. X $.55/LB) =	$302.50
TOTAL COST FOR DISPOSAL	$786.50

3. 1 x 55 GALLON UNKNOWN/MISIDENTIFIED HW (WT. 550 LB.) ANALYSIS COMES BACK DIFFERENT THAN WHAT WAS DOCUMENTED ON DD FORM 1348-1.

RATE 3 (550 LB. X $.98/LB) =	$539.00
ANALYTICAL COSTS	$928.00
(ANALYSIS SHOWED THE WASTE WAS PAINT AND WATER)	
DRMO CONTRACT COSTS (550 LB. X $.55/LB)	$302.50
TOTAL COST FOR DISPOSAL	$1769.50

It is important that all generators identify processes that generate HW and mark containers appropriately so identity does not become unknown. Turn in document DD Form 1348-1 must also identify all HW constituents. Properly packaged, marked and identified HW is a big step towards reducing HW disposal costs.
Point of contact concerning HW disposal costs is Ms. Glen Delk at 445-2917.

APPENDIX 5

TURN-IN PROCEDURES FOR NAS HWAA CUSTODIANS

To ensure Hazardous Material/Hazardous Waste are reutilized and recycled to the maximum extent possible, all HW being picked-up from NAS Norfolk by PWC Norfolk must have a DD1348-1 with an authorized signature, date signed, and a stamp. The procedures are as follows:

1. For HWAA custodians: if possible, submit paperwork 30 days prior to the 90 day time limit.

2. Exhaust all possibilities for turn-in, cross-decking, and reutilization. (see APPENDIX 1)

3. Properly fill out the DD1348-1 with all required information. (see APPENDIX 3) DO NOT forget a point of contact and phone number.

4. Have the DD1348-1 signed by an authorized person located at NAS Norfolk, Facilities Management Department (FMD), Building U-46. You may call ahead at 4-2048/0600 to be sure someone is available for signature. The following personnel are authorized to sign:

   Mr. W. D. Minton, Mr. W. D. Rothwell, Mr. C. Silo, Mr. S. Pearson, and BTC R. Hayes

5. NAS Norfolk FMD will fax a copy of the DD1348-1 to PWC Norfolk as soon as it has been signed.

6. Call PWC Norfolk HW turn-in at 4-7528 to verify receipt of the DD1348-1 and to schedule a pick-up.

7. If complications arise in this process or if non-routine circumstances occur, call Dave Minton at NAS Norfolk FMD (4-2048/0600) to make arrangements.

APPENDIX 6

APPENDIX C

HAZMAT TYPE	TURN-IN POINT	PAPERWORK REQUIREMENTS	DRUM/CONTAINER LABELING REQUIREMENTS
USED PAINTS, LIQUIDS	PWC DAILY PCK-UP	1348-1	LABEL DRUMS AS TO CONTENTS
USED PAINTS, SOLIDS	PWC DAILY PICK-UP	1348-1	LABEL DRUMS/CONTAINERS AS TO CONTENTS
*Keep seperate drums for each of the following: Paint Waste Rags, Brushes & Roller Covers, and Solidified Paint (less than 5 gl size)			
OILY, GREASY, FUEL SOAKED RAGS	PWC 2 TIMES A WEEK PICK-UP	1348-1	LABEL WITH SHIP'S UIC & NAME
HALOGENATED SOLVENTS	PWC DAILY PICK-UP	1348-1	LABEL DRUMS AS TO CONTENTS
NON-HALOGENATED SOLVENTS	PWC DAILY PICK-UP	1348-1	LABEL DRUMS AS TO CONTENTS
CORROSIVE LIQUIDS	PWC DAILY PICK-UP	1348-1	LABEL DRUMS AS TO CONTENTS
*All Acid based materials			

Encl (4)

GREASES	PWC DAILY PICK-UP	1348-1	LABEL CONTAINERS AS TO CONTENTS
USED PETROLEUM BASED OILS ONLY	PWC OIL WASTE & RECOVERY SCHEDULED PICK-UP	1348-1	
USED SYNTHETIC BASED OILS ONLY	DRMO, SOUTH ANNEX	1348-1	FOR EACH CONTAINER: 2252 LABEL & ALL APPROPRIATE MSDS's
MIXTURE OF ANY TYPE OILS	PWC DAILY PICK-UP	1348-1	LABEL DRUMS AS TO CONTENTS
LEAD ACID BATTERIES	PWC METALS YARD	N/R	
* All caps MUST be on batteries			
EMPTY HM CONTAINERS	PWC METALS YARD	N/R	
* Aerosol cans, Paint/Non-skid cans (1"or less dried paint), oil, fluid, and grease cans			

NICAD, LITHIUM & MAGNESIUM BATTERIES	DRMO, SOUTH ANNEX	1348-1	FOR EACH CONTAINER, 2252 LABEL & ALL APPROPRIATE MSDS's
ALKALINE BATTERIES	SEE NOTE ON PAGE 4; IF DRMO TURN-IN SAME AS ABOVE	1348-1	FOR EACH CONTAINER, 2252 LABEL & ALL APPROPRIATE MSDS's
EXPIRED SHELF-LIFE MATERIAL	DRMO, SOUTH ANNEX	1348-1	THE ABOVE RULE APPLIES
* Synthetic oils, fluids, photo chems, X-2 Chems. MUST be MCC "A" and in original containers			
PHOTOGRAPHIC FILM, PAPER & SILVER RECOVERY MATERIALS	DRMO, SOUTH ANNEX	1348-1	THE ABOVE RULE APPLIES
EXCESS/EXPIRED SHELF-LIFE MATERIAL	FISC RE-USE	1348-1	ORIGINAL CONTAINERS ONLY
*MUST BE MCC "A"			
EXCESS HM, MCC "A" ONLY	MTIS	1348-1	ORIGINAL CONTAINERS ONLY

NOTES:	For Alkaline Batteries (AA's, C's, D's & Battle Lantern): if you have a full 55 GL drum or more of alkaline batteries, turn them into DRMO. Inport, they can go into the regular trash in small quantities only.	Any HM that is MCC "H" and that will not be accepted by MTIS, FISC Re-Use or DRMO MUST be turned into PWC for proper disposal	For turning in of HM to DRMO, every container on a pallet must have a DD2252 label and a package of all MSDS's for all NSN's you are turning in to DRMO
NOTES:	Most of the above listed HM goes to either PWC or any of the other turn-in points on a fairly routine basis. From time to time, you may receive some HM, i.e. OBA & EEBD canisters (spent). They get containerized and go to PWC for disposal.	The biggest thing to remember before you turn-in any HM, is if in doubt, call a POC at PWC, COMNAVBASE, MTIS, FISC Reuse or DRMO first to find out where the HM goes to.	Dumping or abandoning of any HM illegally is punishable by all Federal, State and Local laws. If caught, punishments of fines and/or jail may be incurred.

HAZMAT TYPE	TURN-IN POINT	CONTAINERIZATION	DRUM/CONTAINER LABELING REQUIREMENTS
USED PAINTS, LIQUIDS	HICS TRAILER	YES	LABEL DRUMS AS TO CONTENTS
USED PAINTS, SOLIDS	HICS TRAILER	YES	LABEL DRUMS/CONTAINERS AS TO CONTENTS
*Keep seperate drums for each of the following: Paint Waste Rags, Brushes & Roller Covers, and Solidified Paint (less than 5 gl size)			
OILY, GREASY, FUEL SOAKED RAGS	HICS TRAILER	HOLD IN ACCUMULATION AREA FOR BURNING	DOUBLED BAGGED IN PAPER
HALOGENATED SOLVENTS	HICS TRAILER	YES	LABEL DRUMS AS TO CONTENTS
NON-HALOGENATED SOLVENTS	HICS TRAILER	YES	LABEL DRUMS AS TO CONTENTS
CORROSIVE LIQUIDS	HICS TRAILER	YES	LABEL DRUMS AS TO CONTENTS
*All Acids			

ALKALINE BATTERIES; AA's, D's, C's & Battle Lantern	HICS TRAILER	YES	LABEL CONTAINERS AS TO CONTENTS
USED PETROLEUM BASED OILS (INCLUDES JP5)	HICS TRAILER	YES, ONLY IF 100% (GOES INTO HOLDING TANK)	LABEL DRUMS AS TO CONTENTS
USED SYNTHETIC BASED OILS ONLY	HICS TRAILER	YES	LABEL CONTAINERS AS TO CONTENTS
MIXTURE OF ANY TYPE OILS	HICS TRAILER	YES	LABEL DRUMS AS TO CONTENTS
LEAD ACID BATTERIES	HICS TRAILER	YES	LABEL CONTAINER AS TO CONTENTS
* All caps MUST be on batteries			
EMPTY HM CONTAINERS	HICS TRAILER	HOLD IN ACCUMULATION AREA FOR OVER BOARD DISCHARGE	
* Aerosol cans, Paint/Non-skid cans (1"or less dried paint), oil, fluid, and grease cans			

NICAD, LITHIUM & MAGNESIUM BATTERIES	HICS TRAILER	YES	LABEL CONTAINERS AS TO CONTENTS
EXPIRED SHELF-LIFE MATERIAL	HICS TRAILER	ACCEPT ONLY PRIOR TO ENTERING PORT	PALLETIZE FOR INPORT TURN-IN
* Synthetic oils, fluids, photo chems, X-2 Chems. MUST be MCC "A" and in original containers			
PHOTOGRAPHIC FILM, PAPER & SILVER RECOVERY MATERIALS	HICS TRAILER	ACCEPT ONLY PRIOR TO ENTERING PORT	PALLETIZE FOR INPORT TURN-IN
EXCESS / EXPIRED SHELF-LIFE MATERIAL	HICS TRAILER	ACCEPT ONLY PRIOR TO ENTERING PORT	PALLETIZE FOR INPORT TURN-IN
* MUST be MCC "A" and in original containers			
EXCESS HM	HICS TRAILER	ACCEPT ONLY PRIOR TO ENTERING PORT	PALLETIZE FOR INPORT TURN-IN
* MCC "A", 1 year or more remaininig on Shelf-Life and in original containers			

COMNAVBASE ENVIRONMENTAL	PWC ENVIRONMENTAL DISPATCH	PWC OIL RECOVERY
POC: Wayne Guilda	POC: Bill Whitmire	POC: Mr. Dickerson
444-3009	444-7528	445-1546
What he does: Basically, the answer man concerning HM Offloads, helps with disposal problems	Schedules Pick-up of more than daily pier pick-up allowence of 4 pallets of HM	Provides for pier-side pick-up of drums of petroleum based fluids
Special Requirements: Call to schedule HM Offload Conferences (i.e. Storeroom offloads)	Special Requirements: Over 4 pallets of HM, call to schedule pick-up	Special Requirements: MUST call Port Ops @ 444-3745 (they pay for pick-up & ok for PWC to pick up). Call PWC Oil to confirm, get date/time for pick-up
	Pick-up schedule: M-F 0800-0930 at Pier 11 for ONLY 4 pallets or less	Pick-up schedule: T & TH 1230 at Pier 11 for oily, greasy fuel soaked rags

FISC REUSE	DDNV / MTIS	DRMO
Mike Brown POC: ~~Craig Hughes~~	POC: William Alexander	
444-7566	444-1167	445-4450
Expired MCC "A" HM	Any HM having 1 year or more of Shelf-Life remaining	HM not recyclable, not HW; Expired Photo Chems, Synthetic Oils, Expired X-2 Chems
Special Requirements: Call first to make sure they can take your material	Special Requirements: Shelf-Life + 1 year and MCC "A"	Special Requirements: Call to make sure they can take material, if so schedule appointment for M W or F only; let them know material & # pallets/containers
If they say they will take material, they may require on-site inspection prior to taking material	If they say they will take material, they may require on-site inspection prior to taking material	

APPENDIX D

LESSON TOPIC: HAZARDOUS MATERIAL CONTROL & MANAGEMENT (HMC&M)

AVERAGE TIME: 60 Minutes (Handling, Storage and Disposal can be
expanded into separate lectures)

INSTRUCTIONAL MATERIALS:

REFERENCES:

a. OPNAVINST 5100.19B, Chapters B3 and C23 (surface ships) or D15 (submarines)
b. OPNAVINST 5090.1A, Chapter 17
c. NSTM, Chapter 670
d. NSTM, Chapter 593

TRAINING AIDS:

a. Videotape: "Hazardous Materials Control Afloat" (804939 DN)
b. Samples of hazardous materials and hazardous waste labels
c. HANDOUT #1 - Sample MSDS
d. Quiz

OBJECTIVES:

The student should be able to define a hazardous material and hazardous waste, understand the Navy's hazardous waste minimization program and the command's responsibilities. The student should understand the general handling, storage, and disposal requirements for the hazardous materials they use on board. The student should know where to get, and be familiar with the information contained in, a Material Safety Data Sheet (MSDS).

TARGET AUDIENCE:

All users of hazardous material and supply personnel, including supervisors; who handle, store or dispose of hazardous materials.

REQUIREMENTS:

Initial and annual training for all hazardous material users, in accordance with OPNAVINST 5100.19B.

6. The maximum amount of flammable materials in flammables cabinets, per space, cannot exceed:

- A. 10 gallons.
- B. 30 gallons.
- C. The capacity of the cabinet.
- D. 60 gallons.
- E. 12 gallons.

7. The DCA must train damage control personnel in hazardous material spill response and conduct an annual drill.

- A. True
- B. False

8. To safely handle a hazardous material during PMS, you must wear the protective equipment listed:

- A. On every hazardous material label.
- B. On the Maintenance Requirement Card (MRC).
- C. In the OPNAVINST 5100.19B.
- D. On the shipping box.
- E. None of the above.

9. All empty hazardous material containers may be thrown in the dumpster.

- A. True
- B. False

10. The ship needs to label hazardous materials if:

- A. The hazard label was on the shipping box and inner containers had no hazard labels.
- B. The material is put into an unlabeled container.
- C. The label is damaged or destroyed.
- D. A hazard warning was not included on the label.
- E. All of the above.

INTRODUCTION

Hazardous materials are used daily by every ship, in maintenance, repair, and cleaning. We could not maintain our operational effectiveness without using hazardous materials. In using hazardous materials we also produce waste. Hazardous materials can be used effectively and safety if care is taken in the handling, storage, and disposal. The Navy has developed a program to comply with OSHA and EPA regulations, and help minimize the amount of hazardous waste we produce. Strict regulations exist on storage of hazardous materials aboard ship to avoid fires and injury. All hands should understand and be aware of hazardous materials handling, storage and disposal requirements.

A. BACKGROUND

1. Hazardous materials

    a. Hazardous material is defined as any material which, because of its quantity, concentration, or physical or chemical characteristics, may pose a substantial hazard to human health or the environment. Hazardous materials include:

        (1) Flammable and combustible materials.

        (2) Toxic or poisonous materials.

        (3) Corrosive materials, such as strong acids and alkalies.

        (4) Oxidizing materials.

        (5) Aerosols.

        (6) Compressed gases.

    b. Some materials, considered hazardous, are not included in this program and are covered by separate directives. They include ammunition, radioactive material, medical waste, NBC or CBR materials, propellants, PCBs, and bulk fuels. The directives covering these items are:

        (1) NAVSEA OP-4, Ammunition Afloat - For weapons propellant and explosive guidance.

        (2) NSTM, Chapter 073 and NWP 62 - For NBC/CBR materials.

INTRODUCTION

Hazardous materials are used daily by every ship, in maintenance, repair, and cleaning. We could not maintain our operational effectiveness without using hazardous materials. In using hazardous materials we also produce waste. Hazardous materials can be used effectively and safety if care is taken in the handling, storage, and disposal. The Navy has developed a program to comply with OSHA and EPA regulations, and help minimize the amount of hazardous waste we produce. Strict regulations exist on storage of hazardous materials aboard ship to avoid fires and injury. All hands should understand and be aware of hazardous materials handling, storage and disposal requirements.

A. BACKGROUND

1. Hazardous materials

a. Hazardous material is defined as any material which, because of its quantity, concentration, or physical or chemical characteristics, may pose a substantial hazard to human health or the environment. Hazardous materials include:

(1) Flammable and combustible materials.

(2) Toxic or poisonous materials.

(3) Corrosive materials, such as strong acids and alkalies.

(4) Oxidizing materials.

(5) Aerosols.

(6) Compressed gases.

b. Some materials, considered hazardous, are not included in this program and are covered by separate directives. They include ammunition, radioactive material, medical waste, NBC or CBR materials, propellants, PCBs, and bulk fuels. The directives covering these items are:

(1) NAVSEA OP-4, Ammunition Afloat - For weapons propellant and explosive guidance.

(2) NSTM, Chapter 073 and NWP 62 - For NBC/CBR materials.

. The maximum amount of flammable materials in flammables cabinets, per space, cannot xceed:

A. 10 gallons.
B. 30 gallons.
C. The capacity of the cabinet.
D. 60 gallons.
E. 12 gallons.

7. The DCA must train damage control personnel in hazardous material spill response and conduct an annual drill.

A. True
B. False

8. To safely handle a hazardous material during PMS, you must wear the protective equipment listed:

A. On every hazardous material label.
B. On the Maintenance Requirement Card (MRC).
C. In the OPNAVINST 5100.19B.
D. On the shipping box.
E. None of the above.

9. All empty hazardous material containers may be thrown in the dumpster.

A. True
B. False

10. The ship needs to label hazardous materials if:

A. The hazard label was on the shipping box and inner containers had no hazard labels.
B. The material is put into an unlabeled container.
C. The label is damaged or destroyed.
D. A hazard warning was not included on the label.
E. All of the above.

(3) NSTM, Chapter 541 - For bulk fuels.

(4) NAVMED P-5055 - For radioactive materials.

(5) OPNAVINST 5100.19B, Chapter B1 - For disposal of asbestos waste material.

(6) NAVSEAINST 5100.3B - For mercury control.

(7) NAVSEA 9593-A1-MAN-010 - For PCBs.

(8) NAVMEDCOMINST 6280.1 - For medical waste.

(9) OPNAVINST 5090.1A - For plastic waste.

c. Discarded or excess hazardous material can be:

(1) Hazardous materials turned in to stores (HMTIS), which can be returned to the supply system, if in like-new condition.

(2) Hazardous materials turned in for disposal (HMTID), which is turned over to a base Public Works Department or other authority for disposal.

GIVE EXAMPLES OF HAZARDOUS MATERIALS USED ON BOARD COMMON TO YOUR SHIP.

2. The Right-To-Know Law

a. A new OSHA regulation was adopted in the late 1980's. This regulation, 29 CFR 1910.1200, is titled the "Hazard Communication Standard."

(1) This is also known as the "Right-to-Know" Law.

(2) This law says that every employee has the right to know about the hazards in their workplace and how to protect themselves from the hazards.

(3) The law applies to all U.S. employees, including Federal civilian and military personnel worldwide.

b. The "Hazard Communication Standard" affects manufacturers of hazardous materials, the employers who purchase them, and the employees who use them.

(1) Manufacturers must properly label materials.

(2) Manufacturers must provide a Material Safety Data Sheet (MSDS) for each hazardous material they produce.

(3) The hazardous material user must be familiar with the hazards and precautions on the MSDS for everything they use or handle. These MSDSs must be readily available to the user upon request. Items used or handled must also be properly labeled.

c. These regulations also apply to forces afloat. OPNAVINST 5100.19B, Chapters B3 and C23 provide this information.

SHOW VIDEOTAPE "HAZARDOUS MATERIALS CONTROL AFLOAT." ADD 18 MINUTES FOR VIDEOTAPE.

B. LABELING OF HAZARDOUS MATERIALS

1. Labeling provides the handler, shipper, and user of a hazardous material with critical information.

2. Every container of hazardous material must be labeled. Tank trucks and railroad tank cars, must be placarded with Department of Transportation (DOT) symbols.

3. Although the format of the label may differ from company to company, certain information is mandatory under the Hazard Communication Standard:

    a. Identity of the material or chemical.

    b. Name and address of the manufacturer or responsible party.

    c. The appropriate hazard warning.

4. The Department of Defense (DoD) has a Hazardous Chemical Warning Label (DD 2521, 2522). They are used on DoD manufactured hazardous materials, re-packaged containers, tanks of hazardous chemicals, and unlabeled materials already in the DoD system.

5. There are several types of multicolored signs, placards, and decals providing visual hazard warnings. They can be symbols, words, pictures, shapes, or any combination. Two common hazard warnings are:

a. National Fire Protection Association NFPA 704 diamond symbol system. It shows four colored blocks in a diamond formation. The top diamond is colored red for fire hazard. Clockwise, the next diamond is yellow, for reactivity; a blank diamond at the bottom for special information; and a blue diamond for health hazards. Number codes zero through four are used to show the degree of hazard.

b. Department of Transportation (DOT) hazard identification is a colored diamond shape symbol for hazard class, such as flammables, corrosives, oxidizers, and explosives. They are used on hazardous materials containers shipped in interstate commerce.

SHOW AN EXAMPLE OF THE NFPA SYMBOL AND OTHER DECALS OR PLACARDS, IF AVAILABLE.

c. Sometimes international symbols for goggles, gloves, aprons, and respirators are used. They are small pictures (called icons) on the label indicating the required protective equipment.

d. All these labels may be used to supplement the required OSHA labeling. They do not meet the OSHA labeling requirements alone. They should not be placed by Navy personnel on containers which are already properly labeled.

6. If you dispense a hazardous material into an unmarked container, you must transfer the label information to the new container:

a. Identity of the material or chemical.

b. Name and address of the manufacturer or responsible party.

c. An appropriate hazard warning.

7. If you buy or receive a hazardous material with the minimum required labeling, you do not have to add any additional labeling.

8. If a hazardous material is delivered to your ship without proper minimum labeling, you may REFUSE to accept the material from the supply system. If you accept the shipment, you must properly label the hazardous material.

SHOW EXAMPLES OF LABELS ON HAZARDOUS MATERIALS.

C. MATERIAL SAFETY DATA SHEETS (MSDS)

DISTRIBUTE HANDOUT #1, OR AN MSDS FOR ITEM USED ON BOARD.

1. Manufacturers produce Material Safety Data Sheets (MSDS) based on their testing and research of their products. By law, they must provide the data to hazardous materials users.

2. The MSDS shall be in English and shall contain at least the following information:

    a. Identity of the material.

    b. Hazardous ingredients.

    c. Physical and chemical characteristics.

    d. Physical hazards.

    e. Reactivity.

    f. Health hazards.

    g. Precautions for safe handling and use.

    h. Control measures.

    i. Routes of entry into the body.

    j. Emergency and first aid procedures.

    k. Date of preparation of the MSDS or last change.

    l. Name, address and phone number of a responsible party who can provide additional information on the hazardous material and appropriate emergency procedures.

3. Manufacturers may use any format or arrangement of this information, but every MSDS must include all the items.

4. The Department of Defense has developed a standard MSDS system for Navy people to use; who, as part of their job handle, store, use, or dispose of hazardous materials. The Hazardous Materials Information System (HMIS) is a collection of information taken from manufacturer's Material Safety Data Sheets. The HMIS also contains transportation and disposal information.

a. HMIS is available on microfiche or Compact Disc - Read Only Memory (CD-ROM). Each ship has either the microfiche or the CD-ROM HMIS.

INDICATE WHAT YOUR SHIP HAS AVAILABLE AND WHERE.

b. Some ships also have a paper copy file of Material Safety Data Sheets (MSDS) collected from various manufacturers and containers.

5. EVERY hazardous material user must have ACCESS to MSDSs for the items they use or handle. The ship must have an MSDS for every hazardous material on board.

a. Every sailor using a hazardous material must be trained on the hazards associated with that material before they use it. MSDSs, on CD-ROM, microfiche, or hard copy, must be readily available to the individual to view it if they so desire.

b. The Medical Department must hold a file of MSDSs for every item on board for their use in case of an emergency. This can be a hard copy file or CD-ROM HMIS.

c. The ship's Hazardous Material/Hazardous Waste Coordinator must have an MSDS, on file or on CD-ROM HMIS, for every hazardous material onboard.

d. The Supply Department must hold an MSDS for every item they procure. Sometimes they must request the MSDS directly from the manufacturer or distributor.

D. PROGRAM RESPONSIBILITIES

1. According to OPNAVINST 5100.19B, Chapter B3, each afloat command must have a written hazardous materials/hazardous waste program.

2. Each CO must appoint, in writing, a Hazardous Materials/Hazardous Waste Coordinator.

3. Although every supervisor and crew member has certain responsibilities within this program, the HMC&M Coordinator is the primary program manager. Our HMC&M Coordinator is ________________________.

COVER RESPONSIBILITIES IN OPNAVINST 5100.19B, PAGES B3-1 THROUGH B3-5, IF DESIRED. GIVE SPECIFICS FOR YOUR COMMAND.

4. All hands must follow the strict handling, storage, and disposal regulations provided on hazardous materials.

5. The Division Officer and Work Center Supervisor play a critical role in the management of in-use hazardous materials and training of their personnel.

6. All supervisors must receive annual training on hazardous materials procedures.

7. All supply personnel must be trained when reporting onboard and then annually in hazardous materials procedures and the handling of hazardous materials turned in to stores (HMTIS) or turned in for disposal (HMTID).

8. All hands must receive job-specific training on hazardous materials when reporting onboard and then annually.

9. Damage control teams and fire parties must receive annual training, including a drill, on hazardous material spill response and emergency procedures.

10. Monthly spot checks and quarterly evaluations are made of the program to ensure compliance and effectiveness.

THIS SECTION MAY BE EXPANDED AND SERVE AS A SEPARATE LECTURE.

E. HAZARDOUS MATERIALS HANDLING

1. Different hazardous materials may require different handling precautions. Navy publications, such as the NSTMs, and PMS MRCs may give these precautions.

    a. The MSDS also provides handling precautions for the material in the section titled, "Precautions for Safe Handling and Use."

    b. Safe handling often involves the use of personal protective equipment, ventilation, and specific precautions such as keeping it away from open flames.

        (1) The MSDS provides a list of manufacturer recommended protective equipment and clothing.

        (2) The Maintenance Requirement Card (MRC) lists protective clothing and equipment in the "Tools, Parts, Materials, Test Equipment" block.

        (3) Technical manuals and other procedures may list protective equipment.

    c. In general, all hazardous materials should be handled carefully, by trained personnel - even common cleaning materials.

2. General handling and use requirements have been defined for hazardous materials. They are given in OPNAVINST 5100.19B, Volume II, Chapter C23. They include:

    a. Work center supervisors shall ensure, prior to using any hazardous material, people under their supervision were trained on the hazards associated with that material. They must also be provided with necessary protective clothing and equipment (for example, respirators, goggles, or gloves.)

b. Workcenter supervisors shall ensure there is supply and exhaust ventilation in all spaces where people use hazardous materials. The systems must be in good operating condition and have been evaluated as adequate by an industrial hygiene survey.

c. Never exceed one week's requirement as a ready supply of any hazardous material. Return surplus material to its appropriate storage area at the end of the watch or days work.

d. Avoid breathing vapors or dust when using hazardous materials.

e. Avoid contact with the eyes or prolonged contact with skin when using hazardous material.

f. Prohibit smoking, drinking, or eating in areas where hazardous material is used.

g. Ensure personal protective equipment (such as eye, ear, and respiratory) is readily available to all people working with hazardous material.

h. Eye protection against irritating vapors or corrosive liquid chemicals shall consist of chemical goggles worn under a full face shield.

i. The Gas Free Engineer must test and certify any confined or enclosed spaces safe for entry.

j. Use a respirator with the appropriate filter or cartridge when exposed to particulate matter, vapors or hazardous gases.

k. Consult the MSDS for specific safe handling requirements.

THIS SECTION MAY BE EXPANDED AND SERVE AS A SEPARATE LECTURE.

F. STORAGE OF HAZARDOUS MATERIALS

1. Storage, or the lack of safe storage, for hazardous materials is a major problem on board ship.

2. Storage of in-use, flammable and combustible materials can be a fire and explosion hazard. In-use storage of reactive chemicals, such as oxidizers and corrosives, can cause both health and fire hazards.

3. Each type of hazardous material has different storage requirements. Some require only cool, dry storage. Others, such as flammables, must be stored in a space with a fire suppression system. These storage requirements are listed in OPNAVINST 5100.19B Chapter C23, and NSTM, Chapter 670. General storage requirements include:

    a. Mark stowage compartments to identify the type of hazardous material stored and keep the compartment/materials clean and dry at all times.

    b. Provide both supply and exhaust ventilation in stowage areas.

    c. Allow only authorized personnel in stowage areas.

    d. When transferring material from one container to another, ensure the existing precautionary labeling is retained and new containers labeled.

    e. Stack containers so they will not crush containers under them, become imbalanced, or be hard to get to. For example, do not place containers in walkways, or balanced in the overhead.

    f. Issue material on a first-in-first-out basis, considering shelf-life.

    g. Prohibit smoking, drinking, and eating in stowage areas.

    h. Ensure open flames or spark producing items are not permitted in stowage areas.

i. Gas Free enclosed or confined stowage areas before entry or if the ventilation malfunctions and may allow the build-up of gases or vapors.

j. Operate only approved electrical switches in an explosive or suspected explosive atmosphere. Maintain explosion-proof fixtures in applicable hazardous material stowage areas.

k. Seal and protect all containers against physical damage and secure for sea.

l. Store powdered or solid type materials on shelves above liquid type chemicals. If possible, keep liquids low to the deck and in coamings or catch trays to contain spills.

4. Storerooms for bulk supplies are designed into the ship. The flammable liquid storeroom has special gas-tight light fixtures, an automatic fire extinguishing system, alarms and water-tight doors or hatches. Bulk storerooms are controlled by the Supply Department and hold items prior to issue. These storerooms cannot normally be used for in-use material because of custody and inventory procedures.

5. Flammable liquid issue rooms are provided on most ships, under the control of the Deck Department, Repair Department, or other user. They are equipped with alarms, automatic fire extinguishing systems, water-tight doors or hatches, and gas-tight light fixtures. The issue rooms are used for bulk storage of in-use flammable materials.

6. In-use hazardous materials in a workshop or office space are limited to one week's supply of open, in-use material. Hoarding or stocking up on hazardous materials, even cleaning products, is not authorized if it exceeds the weekly working stock.

7. Some shops are equipped with Flammable Liquid Storage Cabinets or Lockers (commercial or NAVSEA-type lockers). They are normally painted yellow, have self-closing doors, and have a sign saying "Flammable material, keep fire away". No matter how big the locker or cabinet is, or how many are in the space, you are not authorized to keep more than 30 gallons of flammable materials in one space.

Note: This applies to lockers, not to flammable storerooms which have features discussed in paragraph 4.

8. To determine hazardous material in-use storage requirements you must determine if:

   a. The material is compatible with other chemicals, or if it must be segregated from any nearby hazardous materials.

   b. What is the hazard classification? - Is it an acid, oxidizer, alkaline, flammable, combustible, toxic, aerosol or compressed gas?

   c. How much of the material will be kept on-hand as weekly working stock in-use?

   d. Are there any special storage requirements listed on the MSDS?

   e. What is the flash point of the material?

8. Consult OPNAVINST 5100.19B Chapter C23 and NSTM, Chapter 670 to determine special storage requirements.

GO TO OPNAVINST 5100.19B CHAPTER C23, AND READ THE STORAGE REQUIREMENTS FOR IN-USE FLAMMABLES, FOR EXAMPLES.

9. Personnel should never bring a new hazardous material, even cleaning material, into the workcenter without consulting the work center supervisor or division officer for storage authorization.

DISCUSS THE STORAGE REQUIREMENT ON AN MSDS FOR A COMMONLY USED HAZARDOUS MATERIAL.

THIS SECTION MAY BE EXPANDED AND SERVE AS A SEPARATE LECTURE.

G. DISPOSAL OF HAZARDOUS MATERIALS

1. Due to strict EPA and OSHA regulations, the disposal of hazardous materials is carefully controlled to avoid damage to the environment and hazards to personnel.

    a. "Cradle to grave" regulations apply to all hazardous materials. A paperwork trail follows a hazardous material from the manufacturer to the shipper, warehouse, handler, and collector, to the ultimate disposal site.

YOU CAN USE THE EXAMPLE OF LOVE CANAL, WHERE A HAZARDOUS WASTE DUMP CONTAMINATED THE LAND AROUND A HOUSING TRACT. THE AREA HAD TO BE ABANDONED BECAUSE PEOPLE LIVING IN THE AREA WERE DEVELOPING HEALTH PROBLEMS.

    b. Each "generator" of hazardous waste must follow strict regulations. In the Navy, shore establishments, such as naval bases and shipyards, are designated hazardous waste generators. Normally, the base Public Works Department takes charge of waste disposal.

        (1) Afloat units are not considered "generators" of hazardous waste. Ships turn excess hazardous materials to their base Public Works or receiving authority. Once the material reaches Public Works custody they will arrange disposal, re-use, or recycling.

        (2) Overseas, naval bases or the foreign base husbanding agent will contract to remove hazardous materials for disposal. These circumstances fall under different, local regulations.

2. HMTIS, or hazardous materials turned-in to stores.

   a. Excess, new, usable hazardous material may be turned-in to the Supply Department for reissue or to the base supply center or Defense Reutilization and Marketing Office (DRMO).

      (1) The materials must be in unopened, clean condition, with no damage to the container.

      (2) A transfer document, 1348-1, must be completed to return materials to DRMO or the Supply Center. Your Supply Department is familiar with these procedures.

3. HMTID, or hazardous materials turned-in for disposal.

   a. HMTID is excess, opened, damaged, or partially full containers of material, items contaminated with hazardous material such as rags and protective clothing, and the remains of processes or procedures such as chemical testing.

   b. Neither the material nor the container can be reused. This includes containers having residue of a hazardous material, such as lead paint, or more than one inch of the hazardous material remaining.

   c. HMTID cannot be mixed. For example, you cannot put waste paint, hydraulic fluid, lube oil, and paint thinner all in one can for disposal. The combination may react and cause a fire, explosion, or give off toxic vapors. Segregate each type of material. Ideally, return each type in the original container.

   d. Store HMTID where the original material was stored until removing it from the ship. If you originally kept the material in the flammable locker, you must keep the discarded material in a flammable locker or the same type safe stowage.

   e. HMTID must be labeled as to contents. The "WARNING-HAZARDOUS WASTE" label (NAVSEA 5100/4) is an optional label you may use to mark unlabeled containers. If the contents are not known, mark the container "unknown waste" and isolate it until turn over.

f. HMTID is turned in to ________________ in the Supply Department, who prepares a 1348-1 form and contacts Public Works Department for pick-up.

DISCUSS YOUR OWN SHIP'S DISPOSAL PROCEDURES HERE, IF THEY DIFFER FORM THOSE PRESENTED ABOVE.

g. Never throw any hazardous material, or even empty hazardous material containers, into the regular trash or dumpsters unless your supervisor approves. Each base has federal, state, and local laws on hazardous waste. They may differ from base to base. At our homeport, we are required to:

DISCUSS YOUR LOCAL PUBLIC WORKS REQUIREMENTS, AND TELL WHAT ITEMS YOU MAY DISPOSE OF IN THE REGULAR TRASH. SHOW A HAZARDOUS WASTE LABEL.

h. OPNAVINST 5100.19B, Appendix B3-C lists the disposal requirements for various hazardous materials. For example, you must put waste oils in containers for shore disposal. It also lists the items which are considered hazardous wastes. Very few items may be disposed of at sea anymore.

i. When in doubt, check with your supervisor before disposing of any hazardous material. Severe penalties and fines can be imposed on ships for improper disposal of hazardous materials. In some cases, NJP or courts martial can result from hazardous materials incidents.

H. HAZARDOUS MATERIAL SPILLS

1. The workcenter responsible can normally clean up small spills of hazardous materials using the precautions provided in the MSDS. Small spills are generally less that five gallons of low toxicity material.

    a. A example of a small spill is knocking over a can of floor wax and spilling a quart of material. There is no fire hazard and the material is not very toxic. The user could clean up by the spill with paper toweling or a mop after consulting the MSDS.

    b. Even a small spill of a hazardous material may require containerizing of the residue and cleaning materials for shore disposal. Always report all spills to your supervisor.

        (1) You must be careful handling spilled material because there is a greater chance of skin and eye contact and inhalation of gases or vapors.

        (2) Protective equipment which may not be necessary for handling the material may be required to clean-up the spill. Your supervisor will advise you on the equipment you need.

2. Larger spills of hazardous materials may threaten the safety of the ship, the environment or injure personnel. In such cases all personnel should evacuate the area immediately and report the spill to your supervisor, DC Central, the CDO, or the OOD.

    a. An example of a large spill would be dropping a pallet load of five gallon paint cans onto the deck while taking on stores. This would be a fire hazard, a threat to the waterway, and a personnel exposure hazard.

    b. Damage control actions, such as calling away the fire party, may be necessary for a large spill.

    c. Hazardous material spilled into navigable waters must be reported in accordance with OPNAVINST 5090.1A, the Environmental and Natural Resources Program Manual.

        (1) Environmentally significant spills must be reported by OPREP-3.

(2) An environmentally significant spill is one which has high press or public interest or is considered a catastrophic event.

(3) Special rules also apply to spills which occur in navigable waters in foreign ports.

3. If the hazardous material spill is a threat to the ship or personnel, the CDO, OOD, DCA, or fire marshal will decide on a course of action.

   a. Hazardous material spill response procedures are provided in OPNAVINST 5100.19B, Appendix B3-A.

   b. The DCA must train all damage control personnel in hazardous material spill response and conduct one spill response drill per year.

   c. The DCA or CDO will use standard damage control procedures, plus information from Material Safety Data Sheets in conducting the spill clean-up.

   d. Spill clean-up kits are located in Repair Lockers __________ (GIVE THE LOCATIONS OF YOUR SPILL KITS.)

      (1) These spill kits contain absorbent materials, protective equipment, labels, and other materials used by damage control personnel for a large spill.

      (2) These kits are maintained by the DCA.

A SEPARATE LESSON GUIDE IS PROVIDED ON HAZARDOUS MATERIAL SPILL RESPONSE, WHICH INCLUDES A VIDEOTAPE.

SUMMARY:

Hazardous materials are required for us to do our job, but they can be hazardous to our health and the environment if improperly handled. Rules and regulations on hazardous materials handling, storage, and disposal have been implemented for your safety and the safety of the ship. You have the right to know safety and health information about hazardous materials, and you must be trained in their use. Careful handling, storage and disposal of hazardous materials is an all hands evolution.

FOR MORE INFORMATION CONSULT OPNAVINST 5100.19B CHAPTERS B3 AND C23, AS WELL AS NSTM, CHAPTER 670, NSTM, CHAPTER 593, AND OPNAVINST 5090.1A.

ADMINISTER 10 QUESTION QUIZ PROVIDED. REPRODUCE LOCALLY. QUIZ KEY IS PROVIDED.

HANDOUT #1

LOCALLY REPRODUCE COMMON MSDS FOR ITEM USED ON BOARD YOUR SHIP. ENSURE EACH STUDENT GETS A COPY. THIS MSDS CAN BE FROM THE CD-ROM HMIS OR ANY MANUFACTURER.

OUS MATERIALS PROGRAM QUIZ

NAME: ____________________ DIV: __________ DATE: ________

CLE THE CORRECT ANSWER

1. The "Right-to-Know" law ensures every user of hazardous materials has:

   A. A Material Safety Data Sheet available for the item used.
   B. A proper label on the item.
   C. Training in safe handling of hazardous materials.
   D. Training in how to read an MSDS.
   E. All of the above.

2. HMTID is:

   A. Hazardous material turned in to stores.
   B. Hazardous material which cannot be reused.
   C. Always mixed in one barrel.
   D. Never labeled.
   E. None of the above.

3. Each command must have a ship's hazardous materials program instruction.

   A. True
   B. False

4. A Material Safety Data Sheet does not need to be available on the ship for common cleaners like floor wax and pine oil.

   A. True
   B. False

5. Your in-use hazardous materials kept in the work center cannot exceed:

   A. The amount you need for deployment.
   B. One-year's worth.
   C. Weekly working stock.
   D. Daily usage amounts.
   E. Monthly PMS requirements.

6. The maximum amount of flammable materials in flammables cabinets, per space, cannot exceed:

A. 10 gallons.
B. 30 gallons.
C. The capacity of the cabinet.
D. 60 gallons.
E. 12 gallons.

7. The DCA must train damage control personnel in hazardous material spill response and conduct an annual drill.

A. True
B. False

8. To safely handle a hazardous material during PMS, you must wear the protective equipment listed:

A. On every hazardous material label.
B. On the Maintenance Requirement Card (MRC).
C. In the OPNAVINST 5100.19B.
D. On the shipping box.
E. None of the above.

9. All empty hazardous material containers may be thrown in the dumpster.

A. True
B. False

10. The ship needs to label hazardous materials if:

A. The hazard label was on the shipping box and inner containers had no hazard labels.
B. The material is put into an unlabeled container.
C. The label is damaged or destroyed.
D. A hazard warning was not included on the label.
E. All of the above.

HAZARDOUS MATERIAL QUIZ KEY

1. E
2. B
3. A
4. B
5. C
6. B
7. A
8. B
9. B
10. E

11 51NPS 984
TH 104
1/99 22527-200 NULB
ICI INFORMATION CONSERVATION, INC

DUDLEY KNOX LIBRARY
NAVAL POSTGRADUATE SCHOOL
MONTEREY 943-5101

3 2768 00360112 1